

**Report of the
Commissioners
of the
District of
Columbia**

1886-1887

(Washington, DC)

50TH CONGRESS, } HOUSE OF REPRESENTATIVES. { Ex. Doc. 1,
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ANNUAL REPORT

OF

THE COMMISSIONERS

OF THE

DISTRICT OF COLUMBIA

FOR

THE YEAR ENDED JUNE 30, 1887.

District of Columbia, Commissioners
T: Report

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ANNUAL REPORT
OF THE
COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

OFFICE OF THE COMMISSIONERS,
DISTRICT OF COLUMBIA,
Washington, December 1, 1887.

The PRESIDENT:

The Commissioners of the District of Columbia, pursuant to the requirements of the organic law of said District, hereby submit for transmission to Congress their annual report of their official doings in detail during the fiscal year ended June 30, 1887.

They also take this opportunity to present their views on various District matters of general concern, which in their judgment should receive the consideration of Congress during the coming session.

The details of their transactions are mainly contained in the reports of the subordinate departments and offices hereto appended, but for more ready reference the substance of those reports is presented here in a summarized form.

ORDERS.

The Commissioners transmit herewith, as part of their official doings, copies of the orders of general nature made by them during the fiscal year embraced in this report. Among those orders are those made in pursuance of the laws authorizing the Commissioners to make police regulations, to regulate steam-engineering, and copy of order providing for the registration of plumbers. To the preparation of these orders the Commissioners devoted much labor and care. This was especially so with regard to the police regulations. Nearly every practice prohibited or controlled thereby had been the subject of frequent complaints, and the Commissioners' action was designed to meet what appeared to be the general wish concerning them, or what in their judgment was demanded by the public interest.

It would have been almost impossible to cover the ground embraced in these regulations without involving cases of hardship, and some of the first regulations were modified where the public benefit sought to be conferred was found not to be commensurate with the dissatisfaction caused, but the Commissioners infer, from the limited criticism the regulations as so amended entailed, that they have caused a minimum amount of private inconvenience compared with the public interests they subserve.

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RECEIPTS AND EXPENDITURES.

The following is a statement of the receipts and expenditures for said fiscal year, the details of which are set forth in the report of the auditor of the District, submitted herewith :

RECEIPTS.

Balance on hand July 1, 1886	\$614, 021. 31
Repayments to appropriations	7, 307. 17
General taxes, including penalties	1, 844, 692. 59
Licenses	164, 982. 13
Markets	19, 053. 76
Rent of District property	6, 587. 39
Fines	33, 152. 83
Fees for tax certificates	3, 402. 50
Permit fees, engineer department	4, 033. 00
Building permits	9, 783. 00
Dog tax	11, 923. 53
Pound fees	367. 00
Material furnished	121. 25
Sale of old school desks	143. 10
Sale of old horses	161. 10
Labor and sale of products of Reform School	1, 887. 70
Labor and sale of products of Industrial Home School	49. 31
Board of Patrick Haney, Washington Asylum	24. 00
Fees for inspection of gas and meters	342. 25
Surplus from sale of contractors' guaranty bonds	1, 638. 17
Advertising taxes	3, 800. 39
Auctioneers' returns	271. 97
Party walls	241. 60
Forfeited recognizance	1, 928. 78
Use of steam fire-engine	40. 00
Confiscated butter	1. 82
Conscience fund	2. 76
Sale of school building Twenty-second and I streets northwest	132. 93
Water taxes and rents	196, 581. 18
Washington redemption fund	339. 90
Special-tax fund	15, 832. 89
Redemption of assessment certificates	960. 17
Redemption of tax-lien certificates	1, 191. 56
Guaranty fund, act June 11, 1878	34, 811. 74
Policemen's relief fund, act February 25, 1885	6, 303. 03
Firemen's relief fund, act February 25, 1885	1, 202. 38
Redemption Pennsylvania-avenue scrip, act July 19, 1876	1, 649. 66
Received from United States, completion sewerage system	5, 000. 00
Received from United States, general expenses, 1888	1, 766. 131. 49
Received from United States, Reform School	9, 750. 00
Received from United States, deficiencies	37, 417. 12
Received from United States, general expenses, 1888	215, 000. 00
Total receipts	5, 022, 264. 46

EXPENDITURES.

Improvements and repairs	\$452, 098. 98
Bridges	12, 509. 51
Washington Asylum	51, 615. 77
Buildings, Washington Asylum	3, 779. 75
Georgetown almshouse	1, 788. 50
Transportation of paupers and prisoners	3, 146. 62
Government Hospital for the Insane	88, 497. 50
Relief of the poor	14, 507. 51
Building, Industrial Home School	1, 800. 00
Industrial Home School, support	9, 500. 00
Building, National Homeopathic Hospital Association	5, 000. 00
Women's Christian Association	4, 000. 00
National Association for Colored Women and Children	9, 000. 00
Children's Hospital	5, 000. 00

Saint Ann's Infant Asylum	\$5,000.00
St. John's Church Orphanage	1,500.00
Washington Hospital for Foundlings	3,500.00
Saint Rose Industrial School	5,000.00
House of the Good Shepherd	5,000.00
Building, Association for Works of Mercy	5,000.00
Columbia Hospital for Women and Lying-in Asylum	18,027.50
Reform School, support	36,616.00
Building, Reform School	5,500.00
Washington Aqueduct	20,000.00
Salaries and contingent expenses, offices	155,714.92
Streets	305,913.89
Metropolitan police	338,205.44
Buildings, Metropolitan police	6,857.25
Fire department	111,946.09
Telegraph and telephone service	16,088.60
Courts	16,106.26
Pay of referees, Court of Claims	350.00
Public schools	\$520,881.11
Buildings and grounds, public schools	138,135.87
Miscellaneous expenses	10,820.13
Health department	42,650.32
Contingent expenses	865.00
Interest and sinking fund	1,213,947.97
Completion of the sewerage system	53,408.73
Expenses of assessing real property	4,809.65
Payment of judgments	16,762.73
Water department	215,893.55
Guaranty fund, District of Columbia	38,054.78
Redemption of Pennsylvania avenue paving scrip, act July 19, 1876	1,649.66
Refunding erroneously paid taxes, etc	2,757.22
Washington special tax fund	15,152.93
Redemption of tax-lien certificates	894.08
Redemption of assessment certificates	899.27
Redemption fund	702.55
Policemen's relief fund, District of Columbia	4,482.09
Firemen's relief fund, District of Columbia	1,060.81
Total expenditures	4,002,398.54
Balance on hand July 1, 1887	1,019,865.92

This balance is composed as follows :

Subject to general expenses	\$997,865.77
Water fund	14,351.07
Special-tax fund	4,447.03
Washington redemption fund	857.86
Redemption of tax-lien certificates	3,117.11
Redemption of assessment certificates	333.43
Guaranty fund	8,131.50
Policemen's relief fund	6,699.23
Firemen's relief fund	2,205.14
Redemption of Pennsylvania avenue certificates, act of July 19, 1876	176.03
Redemption of Pennsylvania avenue certificates, act of July 8, 1870	743.26
Filling grounds south of Capitol, under various acts	191.07
Sale of property in Washington and Georgetown, act of March 3, 1881	449.12
General expenses of the District, act March 3, 1875	292.31
Fire department, act June 22, 1874	.49
Surplus fund	5.50
Total	1,019,865.92

SURPLUS REVENUES.

The amount of revenues of the District derived from taxes and other sources than appropriations, in excess of the proportion of District expenditures chargeable to said revenues, subsequent to 1884, is substantially as follows:

Years.	50 per cent. of appropriations.	Revenue from taxes, etc.	Surplus.
1885	\$1, 744, 270. 99	\$1, 774, 539. 40	\$30, 268. 41
1886	1, 845, 421. 31	1, 909, 705. 30	64, 283. 99
1887	1, 840, 013. 10	2, 105, 764. 86	265, 751. 76

Excess of revenues over 50 per cent. of appropriations	\$360, 304. 16
Add amount of drawbacks remaining to District's credit after settlement of sewer debt ..	80, 400. 11
Add 50 per cent. of amount unexpended balances of appropriations as follows:	
1885, estimated	\$10, 152. 96
1886, estimated	12, 644. 77
1887, estimated	14, 558. 71
	<u>37, 356. 44</u>

478, 060. 71

Deduct outstanding liabilities as follows:	
50 per cent. of appropriation for Eastern Branch Bridge	55, 000. 00
50 per cent. of deficiencies, such as judgments against the District, etc., estimated	25, 000. 00
	<u>80, 000. 00</u>

Surplus on account of 1885-'86, -'87, available to meet future appropriations 398, 060. 71

It is pertinent to this showing to add that the collections to date on account of the fiscal year 1887-'88 have borne fully as favorable relation to the amount of appropriations for said year as did the receipts to the appropriations in the most favorable of the three preceding years referred to above, and that the surplus at the expiration of the fiscal year ending June 30, 1888, available for future appropriations will probably exceed \$650,000.

DEBT.

The bonded debt of the District on the 30th of June, 1887, was reported by the Treasurer of the United States, who is charged by law with its management, to be as follows:

Description of bonds.	Date of maturity.	Interest.		Total.
		Rate.	Coin or currency.	
Of the District of Columbia:		<i>Per cent.</i>		
Permanent improvement	July 1, 1891	6	Coin	\$3, 166, 900. 00
Water stock	Oct. 1, 1901	7	Currency ..	360, 000. 00
Market stock	July 26, 1892	7	do	145, 050. 00
Permanent improvement	July 1, 1891	7	do	616, 200. 00
Water stock	July 1, 1903	7	do	15, 000. 00
Fifty-year funding	Aug. 1, 1924	3. 65	do	14, 033, 600. 00
Twenty-year funding	July 1, 1899	5	do	943, 400. 00
Of the late corporation of Washington:				
Three-year (Emery)	July 30, 1873	7. 3	Currency ..	100. 00
Twenty-year funding	July 1, 1892	6	Coin	982, 700. 00
Thirty-year funding	Nov. 1, 1902	6	do	618, 100. 00
Total				<u>20, 881, 050. 00</u>
To which should be added amount of stocks and bonds outstanding on which interest has ceased, as follows:				
Corporation of Washington, ten year bonds				150. 00
Corporation of Washington, 5 per cent. general stock				1, 340. 01
Corporation of Washington, 6 per cent. general stock				3, 480. 17
Total				<u>20, 886, 020. 18</u>

This indebtedness was all incurred prior to the establishment of the present form of government of the District, which went into effect July 1, 1878.

FLOATING DEBT.

There is a small amount of floating liability in the nature of judgments of courts, etc., against the District, which could not have been anticipated or was not adequately provided for by appropriations.

WATER-SUPPLY DEBT.

The liability incurred on account, of the extension of the water supply to the cities of Washington and Georgetown is not properly a debt of the District, but rather a burden on the individual users of Potomac water, as the law contemplates that it shall be liquidated out of the surplus of water revenues in not less than twenty-five annual installments.

The condition of this account, as stated by the Treasurer of the United States in his report of October 1, 1887, to the Secretary of the Treasury, is as follows:

Total appropriation.....	\$2, 215, 279. 30
Deficiency asked for	320, 000. 00
Total.....	<u>2, 535, 279. 30</u>
One-half of said total to be refunded out of water revenues in twenty-five annual installments.....	1, 267, 639. 65
Installments which have been repaid, to be deducted:	
First installment.....	\$35, 169. 10
Second installment	34, 598. 98
Third installment.....	45, 358. 40
	<u>115, 126. 48</u>
Balance to be paid in twenty-two annual installments	1, 152, 513. 17

SEWER DEBT.

Since the last annual report of the Commissioners the debt incurred under the act of Congress approved June 30, 1884 (U. S. Stats., vol. 23, p. 62), for the extension of the sewerage system, has been adjusted and settled. The total amount advanced by the United States on this account was \$500,000, 50 per cent. of which the District was required to reimburse in annual installments of not less than \$50,000, commencing with the fiscal year 1885-'86, with interest at the rate of 4 per cent. per annum.

The Commissioners were authorized by said act to apply to the liquidation of this debt 50 per cent. of unexpended balances of appropriations theretofore made, and a necessary portion of the deposits of revenues contributed by the District in excess of the District's liabilities on account of appropriations.

In pursuance of this provision the account was closed by the accounting officers of the Treasury by the application thereto of unexpended balances of appropriations amounting to \$132,029.04, and a necessary portion of the drawback certificates received in payment of general taxes, and which the act of July 9, 1886 (U. S. Stats., vol. 24, p. 138), required should be considered and treated as money in the keeping and settlement of accounts between the United States and the District of Columbia, \$117,970.96; total \$250,000.

No item for interest appears in this account for the reason that the District had a sufficient amount to its credit in the Treasury to liqui-

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date the liability before the first annual installment became due. The delay in the settlement of this account was not due to any dereliction on the part of the District, but to a seeming ambiguity in the law respecting the availability as a part of the District revenues, of the drawback certificates received in payment of general taxes, which, in the opinion of the accounting officers of the Treasury, rendered subsequent legislation necessary.

GENERAL ASSESSMENTS.

The valuation of real property in the District on June 30, 1887, as reported by the assessor, was—

Taxable :

Real property	\$111,744,830	
Personal property	10,943,458	
		<u>\$122,688,288</u>

An increase in assessment of taxable real property over assessment of preceding year of \$2,453,942, and a decrease in amount of personal assessment, compared with preceding year, of \$990,787.

Non-taxable :

Property of the United States	\$107,119,684	
Property of the District of Columbia	2,308,772	
Private property exempt by law	6,578,634	
		<u>116,007,090</u>
Total		<u>238,695,378</u>

The taxable property is located as follows :

City of Washington :

Real property and improvements	99,430,297	
Personal	9,880,765	
		<u>109,311,062</u>

Georgetown :

Real property and improvements	4,908,345	
Personal	847,360	
Total		<u>5,755,705</u>

Suburban portion :

Real property and improvements, agricultural	3,771,022	
Real property and improvements, non-agricultural	3,635,166	
Personal property	215,333	
Total		<u>7,621,521</u>

The non-taxable property is located as follows :

City of Washington :

Property of the United States	193,486,386	
Property of the District of Columbia	2,088,333	
Private property exempt by law	5,438,068	

City of Georgetown :

Property of the United States	232,987	
Property of the District of Columbia	165,839	
Private property exempt by law	328,488	

Suburban portion :

Property of the United States	3,400,311	
Property of the District of Columbia	54,600	
Private property exempt by law	812,078	

The foregoing exhibits do not include any personal property of the United States.

LICENSES.

The assessor reports that 4,102 licenses were issued during the year. This was an increase of 154 licenses and \$8,526.41 in revenue from this source over preceding year. Of these licenses 922 were for retail and 402 for wholesale liquor dealers. This was an increase of 127 bar-rooms, and a decrease of 266 places where liquor was sold at wholesale. The office also prepared 7,047 certificates of the condition of tax accounts, for which 50 cents each was received.

NUMBER OF BUILDINGS ASSESSED.

The number of private buildings in the District is reported by the assessor to be—

In the city of Washington	30,848
In the city of Georgetown	2,626
In the suburban portion	3,406
Total	36,880

MAKING AND EQUALIZATION OF GENERAL ASSESSMENTS.

In their last report the Commissioners called the attention of Congress to the method of making general assessments under the act of March 3, 1883 (U. S. Stats., vol. 22, p. 568), and equalizing such assessments when made. They are satisfied that most of the difficulties attendant upon the proper assessment and collection of taxes in this community grow out of the deficiencies incident to this method. By it assessments are made only once in three years, and after they are made are submitted for correction and equalization to a board composed of the very persons who have made and returned the assessments, the only limitation upon the discretion of the persons mentioned in making such correction and equalization being that they can not reduce the aggregate value of the property assessed below the returns thereof made by the assessors. Over the assessments when made, legalized, and returned, neither the Commissioners nor the assessor of the District of Columbia have any control, and it remains just as it comes from the hands of the temporary assessors referred to until the next assessment three years later, there being no jurisdiction anywhere to make any change either by way of reduction or increase, however reasonable and just it may be that some such change should be made.

The statutes provide that these general assessments shall be made once in three years. It will thus appear that during the period that intervenes between any two periods of assessment, that is, for the term of three years, the valuation of real property in the District of Columbia must remain the same, however great the change in that value may be in the mean time. By this system not only is the Government deprived of all advantages that might accrue to its revenues by the increase of values, but the citizens lose all chance of having any over-assessment corrected.

This method of assessment is in every way unsuitable to the wants and interests of a large and rapidly growing community. The Commissioners could illustrate what they say in this respect very forcibly by showing to Congress the remarkable contrast that is made apparent by comparing the values of property in several localities as they exist at this time with what they were at the time when the last assessment was made. The evident remedy for this lies in such a change in the exist-

ing law as shall require assessments to be made annually, and will provide means by which assessments when made shall be at all times subject to revision and correction by some authority appointed for that purpose, so that the same may be increased or diminished as the interests of the public and the property-holder shall demand. During the past year the Commissioners have had this whole matter, in all its details, under serious consideration, and by an order made, with a view to bringing about just and proper changes, have directed one of their number to prepare and submit such a plan of legislation as shall seem best adapted to effect the ends in view. This will be done at an early day in the session, with the hope that some reform may be obtained without delay.

PERSONAL TAX.

The collections of tax on personal property are yearly and rapidly decreasing. The reports of the assessor for the last fiscal year and for 1879, 1880, and 1882 treat of the difficulty of assessing and collecting this tax, and the last report of that officer contains a comparative statement showing that the receipts from this source are now 60 per cent. less than in 1878, when the law was enacted.

If this tax is longer to be regarded as a material source of revenue, the laws providing for its assessment and collection should be amended.

RECORD OF TRANSFERS.

The Commissioners beg leave to say in this connection that they believe a great benefit would be conferred upon the citizens of the District of Columbia who own real estate, and at the same time upon the Government, if some amendment were made to the provision of the Revised Statutes relating to the District of Columbia, section 144, having relation to the record of property transfers and the report of those transfers made by the recorder of deeds. As it is, these transfers are reported to the office of the assessor but once in six months, and it must be manifest to any one that during the time that elapses between the furnishing of the reports various transfers can be made by which the title to the property will be changed, and that confusion will inevitably arise therefrom detrimental alike to the interests of the property-holder and of the department of the District government having in its charge matters relating to real estate. In fact this confusion does occur. It is exceedingly difficult sometimes to know from the transfers as reported who is the owner, and equally difficult to determine who was the owner when certain assessments were made. It is true the property is ultimately liable, and the District is secure in getting its taxes as levied, at some time, but the numerous questions that arise, the delays incident to their adjustment, not only take the time of the officers of the Government, but the titles to real estate are perplexed and clouded when there is no need. A very simple remedy can be had by an amendment to the section of the Revised Statutes referred to, which will require the recorder of deeds to report the transfers made in his office either daily or weekly to the assessor, and requiring comparisons to be made at stated times between the record of transfers kept by the assessor and the indexes of the deeds recorded in the office of the recorder.

SPECIAL ASSESSMENTS.

A brief account of the origin of the special assessments, with which the Commissioners have to do, was given in their annual report for 1886.

The amount of old corporation assessments collected during the year ended 30th June, 1887, was, principal, \$6,246.24; interest, \$9,586.65; total, \$15,832.89.

The amount of uncollected assessments for work done under contracts with the Board of Public Works and extensions thereof was, on same date, \$422,504.17; \$341,675.74 of this amount, bearing interest at the rate of 10 per cent. per annum since 1876 on an average, is represented by lien certificates in possession of the Treasurer United States, as security for the 8 per cent. certificates of indebtedness issued by the Territorial government of the District in 1873, to the redemption of which all collections made on account of said assessments are applied by that officer. The amount of those 8 per cent. certificates outstanding June 30, 1887, was \$190,400, with accrued interest thereon estimated at \$135,000.

The remainder of the \$422,504.17, namely \$80,828.43, with interest at 10 per cent. since 1872 on an average, is represented by lien certificates held by private parties.

DRAWBACK CERTIFICATES.

The officer in charge of special assessments also reports the total amount of drawback certificates prepared to June 30, 1887, as \$954,197.20, of which \$942,435.46 have been issued and \$11,761.74 await evidence of ownership. Of those issued \$381,131.55 have been received in payment of general taxes, and \$549,481.55 in payment of special taxes.

REASSESSMENTS OF DEFECTIVE SPECIAL ASSESSMENTS.

Favorable action is recommended on the suggestion in the report of the officer in charge of special assessments, that the Commissioners be vested with authority to reassess, for special improvements, in all cases in which the courts have held or may hold that the original assessments were invalid, wherever it appears that the work was properly done and paid for by the District.

ENFORCEMENT OF LIENS FOR SPECIAL IMPROVEMENTS.

Since the expiration of the past fiscal year many applications have been made by holders of liens against property delinquent for special improvement taxes, and preliminary preparations for such sales have been instituted.

COLLECTION OF TAXES.

The collector reports collections and deposits in the Treasury by him as follows:

Tax on real estate and improvements.....	\$1, 621, 455. 94
Tax on personalty	152, 815. 88
Water fund.....	196, 581. 18
Penalties	73, 129. 55
Licenses and other miscellaneous items	279, 279. 71
Total	2, 323, 262. 26

which includes \$19,014.01 of trust funds.

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Tax on personalty	152,815.88
Water fund.....	196,581.18
Penalties	73,129.55
Licenses and other miscellaneous items	279,279.71
Total	<u>2,323,262.26</u>

which includes \$19,014.01 of trust funds.

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ARREARAGE OF GENERAL TAX.

Uncollected balances, real and personal, \$1,097,289.42 since 1872, of which \$232,525.36, consisting of \$198,308.65 realty tax and \$33,216.71 personalty tax, was arrearage for year ended June 30, 1887.

Much of this apparent uncollected balance is, as stated in prior reports, charged against property whose status with reference to taxation is a subject of dispute, and property not liable for taxation for various reasons, but which has been carried on the assessment records from year to year, until some definite action for the elimination of such redundant items is taken.

RECORD OF TAXES IN ARREARS.

The Commissioners regret that satisfactory progress in the preparation of a systematized record of arrearages of taxes has also been precluded by the inadequacy of the means available for the work. Its future advancement will likewise be retarded unless more extended provision for its prosecution be made. The Commissioners suggest that the progress of this work could be materially accelerated if Congress should place at the disposal of the Commissioners for the purpose a necessary portion of the receipts from the issue of certificates of condition of tax accounts. The receipts from that source for the last fiscal year were \$3,523.50.

PERCENTAGE OF COLLECTION OF GENERAL TAX.

The assessor's report contains an interesting comparative table of assessments and collections for each fiscal year from 1873 to 1887 inclusive, from which it appears that the general average collection during that period has been 96.4 per cent. of the assessment.

TAX SALES.

The necessity and demand for legislation giving validity to tax titles, which the Commissioners urged in several of their previous annual reports and recommendations to Congress, seem to have been met to some extent by the act of January 26, 1887.

The Commissioners, notwithstanding, deem it their duty to invite attention to the following inconsistency in the existing law prescribing the time for sales of property for arrearages of taxes, and to reiterate their recommendation for the necessary correctional legislation in time to be available for the next annual tax sale, as follows:

The fifth section of the act of March 3, 1877 (U. S. Stats., vol. 19, p. 396), requires that sales of property for overdue taxes shall take place on the "second Tuesday of August," after a three weeks' prior notice, while section 4 of the act of June 27, 1879, (vol. 21, p. 36) directs that such notice shall be published on the first "Tuesday of September," or nearly *one month* after the time prescribed for the sale the notice is apparently intended to announce.

ATTORNEY'S OFFICE.

The report of the attorney, hereto appended, contains a synopsis of the leading cases in which the District is a party, which have engaged him and his subordinates during the year.

Seventy-three cases were finally disposed of in the supreme court of the District and 115 new cases instituted; 7,211 cases were tried in the

police court by the special assistant attorney, resulting in 6,479 convictions, and the imposition of fines amounting to \$38,355, further details of which are contained in the report of that officer.

COMMITMENT OF INSANE.

Referring to the commitment of insane persons in the District to the Government Hospital for the Insane, the attorney, after reviewing the statute and ruling of the courts on the subject, states:

No provision exists for the commitment of a *civilian* not indigent, but dangerously insane, whose relatives, guardian or friends may not apply for his admission to the hospital and render themselves liable for his board. This should be remedied by legislation providing for admission to the hospital of a *non-indigent* person adjudged dangerously insane, and enabling the District or hospital authorities to have recourse to his property for payment of the necessary expenses of his commitment and care. The latter object might be accomplished by the appointment of a committee in the usual way, charged with the control and application of the patient's estate, and made liable to the District or the hospital for the expenses indicated.

He also recommends that the commitment of the supposed lunatic should be authorized pending preliminary proceedings on the question of his sanity.

The District not only has its due number of indigenous cases of this character, but from its peculiar attractions as the seat of government receives many of those who are led here by illusions on the subject of claims against the General Government and by vagaries as to their relation to the administration of national affairs. Some of these are of an extremely dangerous character, and it is imperatively necessary that they be promptly put under restraint.

CORONER.

The coroner reports that he issued certificates of death in 478 cases. Of these 156, or 32.63 per cent., were white, and 322, or 67.37 per cent., colored.

The causes of death were:

Suicides	22
Homicides	10
Infanticides	16
Accident and neglect	72
Disease	299
Still births	59

Further details are contained in his report, hereto appended.

PUBLIC SCHOOLS.

The Commissioners, recognizing the importance of the public-school system as a factor in the work of making good citizens and the material aid they afford in the civilization and progress of any member of the community, have given that system much time and attention, bestowing upon it as far as in their power continuous personal oversight.

The accompanying reports of trustees, superintendents, and heads of different branches of the public-school system show the condition of the schools for the year ended June 30, 1887, in respect to cost, attendance, discipline, and scholastic work accomplished.

Thirty-three thousand three hundred and seventy-four pupils were enrolled during the year, of which number 21,326 were white and 12,048

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were colored. The average number of pupils attending each school day of the year was 27,733.

It will be seen that nearly 35,000 children receive instruction in our schools if those attending night schools are counted. This is perhaps one-sixth of our entire population.

Since our last report nine well-arranged and well-equipped buildings have been added to our school accommodations. Besides these, several small houses have been enlarged.

The industrial department of the High School, to which your attention was called in our last report, has proved a success in every way.

Industrial education is now a part of the systematized school work of the District. This desirable result has been secured without disturbing any other interest of the general system and without loss in any other branch of school work.

The Commissioners believe the year has been a prosperous one for the schools; that the officers and teachers have performed their duties wisely and with fidelity; that the schools have maintained their high standing in everything that characterizes a well-managed school system, and that they are steadily advancing to a higher and broader plane of usefulness.

It will not be amiss to say here that industrial training has during the past year been so enlarged and extended as to embrace grades below the high school and to include all branches of that department of education. A second year of training in wood-turning and work in metals, forging and casting, and the practical use of the steam-engine and the implements and tools employed in such work, has been introduced, and classes in cooking and sewing, under competent, well-instructed teachers, have been added to the schools.

POLICE.

The personnel of the police department is as follows: One major and superintendent; 1 captain; 2 lieutenants, inspectors; 1 chief clerk, also property clerk; 2 clerks; 4 surgeons for the police and fire departments; 8 lieutenants; 20 sergeants; 115 privates of class one; 140 privates of class two; 17 station keepers; 8 laborers; 2 messengers; 1 van driver; 1 ambulance driver; 1 assistant ambulance driver, and 4 drivers of patrol wagons. Of this force the superintendent, captain, and 25 others are mounted.

The District of Columbia is divided into eight police precincts, each of which is in charge of a lieutenant.

POLICE SIGNAL AND PATROL SYSTEM.

The Commissioners became so favorably impressed with the reports of this system by the officers in charge of the first, second, fourth, and sixth precincts, where it is in operation, that they included an item in their estimates for 1889 to provide for its extension to the third precinct. They know of no branch of the public service that better justifies the expenditure required for its introduction and maintenance.

INCREASE OF FORCE.

A force averaging less than 90 men on duty at any one time is expected to patrol and protect a territory of 72 square miles, containing a population of upwards of 200,000 people.

Besides the regular duties the force is subject to numerous drafts, especially while Congress is in session, for special service.

The smallness of the District force, as compared with most of the other large cities of the country, both with respect to population and area protected, appears in the following table:

Localities.	Number of population to one police man on duty.	Average per square mile patrolling at any one time.
District of Columbia.....	2,700	1
Saint Louis	2,400	3
Boston.....	1,500	4
Louisville	2,142	5
Chicago	1,842	9
Cincinnati	2,625	10
Brooklyn.....	2,000	10
Baltimore.....	1,800	14

The enforcement of license ordinances, the inspection of premises, and reports upon liquor applications, together with a rigid surveillance of saloons wherein intoxicating liquors were supposed to be sold in violation of law, has entailed much additional labor upon the police, but the results have been beneficial in suppressing to a great extent the illicit sale of intoxicants and a decrease of drunkenness and disorder on Sunday, thereby improving the moral tone of the District, and attesting the efficiency and zealous fidelity of the police department in the discharge of duty.

In their estimates submitted October 1 to the Secretary of the Treasury, the Commissioners make provision for an increase of the force of one lieutenant, ten sergeants, and ninety privates. They believe the present force to be numerically inadequate to a proper performance of the multifarious duties assigned it, and that the preservation of order and the protection of life and property demand an increase to this extent. It is also proposed to erect a station-house and establish an additional precinct, to be known as the Ninth, by dividing the Sixth police district, which includes all that section of the city east of Fifth street west, extending to the Eastern Branch, and north of East Capitol street and extending to Boundary. The area defined by these boundaries embraces a territory of one-fourth of the entire city.

The population of this section has largely increased. Streets have been opened and extended, school-houses erected, and building operations been of such a character and extent that it is considered that some practical and effective police protection should be afforded a section in which the citizens, by reason of the inadequacy of the force, have at times been compelled to patrol beats and perform other police duties in the protection of property and the suppression of lawlessness.

The Commissioners regret that the clause requiring appointments on the force to be made from among those who have served in the Army or Navy still impairs the usefulness of this service. The reasons they have repeatedly stated to Congress for the repeal of this law still apply with full force.

The requirement is an unmixed evil. It confers no benefit on the soldiers and sailors who served during the late war, and in whose behalf it was enacted, but so confines the scope of selection as to render difficult the maintenance of such a *morale* as should characterize the police force of the seat of the National Government.

FIRE DEPARTMENT.

The fire department consists of 1 chief engineer and 2 assistants, 1 secretary, 3 watchmen, 7 engine companies, and 2 truck companies. Each engine company consists of 1 foreman, 1 engineer, 1 fireman, 1 hostler, and 6 privates, and each truck company of 1 foreman, 1 tillerman, 1 hostler, and 9 privates. The apparatus consists of 8 steam fire-engines, 8 hose-carriages with hose, and 3 hook-and-ladder trucks.

The report of the chief engineer of the department, herewith, gives full details of its operations. The department exhibited its usual efficiency during the year.

There were during the year 186 fire alarms to which the department responded, and 65 fires attended without alarms. The loss by fire during the year was \$298,629, and the amount of insurance involved, \$241,164.

The estimates for this department for 1888-'89 include items for the construction of an engine-house and the formation of an additional fire company for the eastern section of the city. The large property interests involved and the great increase in the number of new buildings erected in this section, as well as the urgent demand of the citizens, are considered good and sufficient reasons for recommending this appropriation.

HEALTH DEPARTMENT.

The health officer reports the total number of deaths during the last fiscal year to have been 4,665, which was 9 less than previous year. Of these 1,343, were white and 1,079 colored males, and 1,141 white and 1,102 colored females.

The annual death-rate was 22.21, the lowest for twelve years. The death-rate of white population was 17.74 and that of the colored 31.15, the difference being mainly due to the ignorance and indifference of the large majority of the latter class respecting sanitary considerations, although the death-rate of that class was considerably less last year than the mean rate for the preceding twelve years, and it is hoped owing to growing appreciation of the necessity of better observance of hygienic rules.

The causes of death are classed as zymotic, 989; constitutional, 1,171; local, 1,817; developmental, 499; and violence, 189.

CEMETERIES.

The health officer reiterates the suggestions made by him in a prior report as to the advisability of considering the effect of cemeteries on the public health when they are located in or near thickly populated sections. As several burying grounds in the District belong to this category, it would seem that the necessity for a thorough examination of the question by the District authorities is imminent.

INSPECTION OF FLOUR.

The inspectors of flour report that they examined 195,710 barrels of flour in or brought into the District for sale.

INSPECTION AND MEASURING OF WOOD.

The inspectors and measurers of wood report the inspection and measurement of 37,322 cords of fire-wood landed and sold in the cities of Washington and Georgetown.

INSPECTION AND MEASURING OF LUMBER.

The inspectors and measurers of lumber report the measurement of 29,070,185 feet of lumber brought into and sold in the District, but not previously measured.

MARKETS.

There are three markets owned and controlled by the District; two in Washington, called the Eastern and Western, and one in Georgetown. The excess of receipts over expenditures from same for the last fiscal year was \$6,145.49.

CHARITABLE AND REFORMATORY INSTITUTIONS.

Pursuant to requirements of law contained in the District appropriation acts of 1885 and 1888, the Commissioners have prepared and submitted a separate report to Congress, setting forth the requisite data concerning the eleemosynary and reformatory institutions and agencies in the District of Columbia receiving aid from the District revenues, and their views as to the establishment of a general municipal system of supervising them.

MUNICIPAL HOSPITAL.

The hospital at the Washington Asylum is the only instrumentality of that character in the District directly under municipal control and management. Its usefulness is materially limited by the fact that it belongs to and is appurtenant to the asylum and work-house. Many in need of public medical attention are deterred from taking advantage of the aid it affords because of its connection with the institutions mentioned. These are principally meritorious and respectable indigent persons, who would willingly avail themselves of the benefits of a municipal hospital having more congenial relations and associations. For such persons provision should be made without delay.

There are several institutions in the District receiving aid in part from the public revenues that extend gratuitous medical and surgical relief; but the commissioners are of opinion that expenditures of public money for purposes of this nature should be made through the agency of an institution owned by the District and amenable to unrestricted governmental surveillance and control. They therefore recommend that provision be made for the erection of a city hospital in some central location, which shall have connected with it ample emergency accommodations.

CODIFICATION OF DISTRICT LAWS.

The Commissioners can advance nothing more on the merits of the subject of codifying the laws for the District than they have already presented in previous reports and communications. They deem it their duty, however, to reiterate their recommendations that early provisions be made to relieve the embarrassment now suffered by all classes on this account.

In this connection the Commissioners have been pleased to note that a gentleman of this city, who is specially qualified for such work, has been engaged for several years in collecting and collating material for

a compilation of the municipal laws in force here, and they are of opinion that it would be a great public advantage if his work should be adopted by Congress.

POLICE MAGISTRATES.

In the estimates for the ensuing fiscal year the Commissioners have made provision for the compensation of four police magistrates. There is at present no statute that authorizes the appointment of such magistrates, but the great need for such officers in the community seemed to the Commissioners sufficient authority for making the estimate in question.

At present jurisdiction over petty offenses is confined to the police court alone, and this tribunal has, in addition to the jurisdiction referred to, authority to hold offenders to bail for probable cause to await the decision of the grand jury in their cases. This condition of affairs is the source of great inconvenience to the persons interested in the matter in question, and is, besides, very detrimental to the proper police care of the District. The trial of cases and the hearing of offenders, all of whom are arrested by the police officers, necessitates the attendance of the arresting officers upon the police court as witnesses frequently during the greater part of the day, thereby leaving large areas in the District without the guardianship of the officers appointed to their care and charge. Not only do citizens complain of this condition of things, but the police authorities are urgent in their condemnation of it. It is to meet these complaints and to fill the police need, which must be apparent to any one who gives the matter attention, that the plan of appointing a number of police magistrates has been devised. These officers are to hold court in the several station houses, thus doing away with the inconvenience and injury arising out of the practice pursued of summoning the officers to a central police court and detaining them there the greater part of the day.

It is not proposed to do away with the police court, the Commissioners having already intimated to Congress their opinion that that court should be retained as a tribunal to hear municipal appeals.

The Commissioners think that nothing better and more for the interests of the community would be effected than by the creation of the magistrates referred to, with a well-defined limited jurisdiction, together with the means for the immediate hearing of all appeals taken from their decisions. They heartily recommend some such legislation.

WATER SUPPLY.

The last annual report of the Commissioners treated generally of the defects of the water system, and these need not be again recounted. The report of Captain Symons with reference to the water and sewers contains valuable information and detailed data of great interest.

Local benefits have accrued from changes made in the distribution and from more careful administration of the service, and minor sources of dissatisfaction have been largely diminished; but much remains to be accomplished, and large expenditures are needful before the supply can be made satisfactory. The actual amount of water delivered by the conduit, if properly utilized, is much in excess of the real need, and the attention of Congress is invited to the large waste of water which takes place in the great Federal offices and to the need of adopting measures to check it.

While awaiting the completion of the new aqueduct and reservoir, the construction of which is proceeding under the direction of the War Department and from which great improvements are generally expected, it is to be observed that the present shortage over considerable areas of the city will inevitably continue even after the completion of the new work unless means are taken to restrict the use of water within reasonable limits and for useful purposes. There is no advantage whatever, public or private, in permitting a pipe which is intended to deliver water for useful employment to waste its full volume day and night, discharging probably a hundred times more than is put to any useful or legitimate purpose at any point of the flow.

With regard to the details of the service certain legislation is desirable. In laying mains, for example, the law now requires that the majority of the property binding on the line of pipe shall petition for its construction. This onerous condition imposed upon property-owners has been found a serious disadvantage, as the refusal of the owners of unimproved lots or corner properties, otherwise supplied, to sign the petition, in many cases prevents the Commissioners from extending the water service to properties to which it is indispensable. Either the proportion of property required to petition for the main should be greatly diminished, or the Commissioners should be empowered, without reference to a petition, to lay mains when in their judgment they are needful and suitable appropriation has been made.

During the past year the system of administration of the water department has been carefully examined and in many respects improved. Examination of the books of the water office disclosed the fact that a considerable number of properties liable for water tax had not paid it, and that in numerous cases permits for connections had been granted without making provision for the collection of the tax. The public discussion of the subject revealed the fact that the provisions of law with reference to the matter were not commonly understood, and in some cases absurd charges were made, which inquiry immediately proved groundless. As an outcome of the discussion, the matter finally resolved itself down to a question as to whether or not the law required a distinction to be made between the uses of moneys derived from the water-main tax and those derived from water rentals. A supposed ambiguity on this point is found in the statutes as of record. These are as follows :

[Revised Statutes of the United States relating to the District of Columbia.]

SEC. 198. The water rates levied in Washington and Georgetown shall never be a source of revenue other than as a means of keeping up to said cities a supply of water, but shall constitute a fund exclusively for the maintenance, management, and repair of the system of water distribution.

SEC. 203. The water tax authorized to be levied and collected by the provisions of the four preceding sections shall constitute a fund to be used exclusively to defray the cost of distribution of the water, including all necessary fixtures and machines connected with such distribution.

In the light of the fact that the District authorities have only to deal with the question of distribution, that of supply being retained in the control of the Federal Government, careful reading of these two sections fails to disclose any clear distinction between the uses of the respective funds. The water rates being for the "maintenance, management and repair" of the distribution, while the water taxes are to defray the "cost" of the distribution. In practice these divisions can not be separated.

However this may be, the uniform practice since the passage of the act has been to regard the water revenues from all sources as a common

fund, deposited in the Treasury and drawn against in pursuance of appropriations without reference to their original source. This practice, annually recognized by Congress in the appropriation acts, seems to have been entirely satisfactory, and the Commissioners see no reason for changing it.

Investigation of the schedule of water rates showed certain discrepancies therein with reference to the assessment of domestic charges against dwelling-houses. The Washington system of assessment is by front foot and number of stories, a house 16 feet wide and two stories high being taken as the unit, with an additional charge for each front foot and story added. The rates as levied excused the larger-sized houses from their due proportion of charge, and a modification was therefore made, effecting a more equitable adjustment of the matter.

The heavy burdens imposed upon the water fund by the payment of interest and sinking-fund charges against the two accounts of bonds for former expenditures, and 50 per cent. of the expenditures for the new works, amount to nearly one-half the total revenue, and annually limit the operations of the service for the betterment of existing conditions. There are always more mains to be laid than there is money to pay for, and any unexpected draft, such as was occasioned for example by the bursting of the L street main, which brings the principal supply of the city from the distributing reservoir, to a great extent cripples the service until further appropriation can be obtained. In a matter of such vital importance as the water service it may be seriously questioned whether the full weight of this burden should fall upon the water-takers or whether the payment of the fixed charges should not more properly be borne by the general treasury.

A large fraction of the inhabitants of the city are now getting their water supply practically free of charge, since the builders and owners of the smaller classes of houses in many cases fail to provide them with water appliances, and the inhabitants are forced to resort to the public hydrant. If the Commissioners were empowered to order the laying of water mains without petition, this evil would be amended. As an alternative to this, should it not be adopted, some form of tax should be imposed which would reach the case, such as the imposition of a hydrant tax upon all premises using the water therefrom and which have not a supply of their own. The disadvantage of this arrangement would be, that the burden would fall entirely upon the occupants, and the property-owner would escape his just liability, which in most cases he is better able to bear than they. An additional argument in favor of compelling the laying of a main in such a case is, that until water is provided no system of sewerage is practicable, compelling recourse to privies and temporary unsanitary arrangements.

SEWERAGE.

In the construction of sewers an important modification of the existing law is needed. At the present time all sewers constructed under the appropriation for that purpose must be built by contract, and this exclusive method of procuring the extension of the sewer system has been found to involve serious disadvantages. The law should permit the Commissioners to exercise their discretion as to building the sewers by contract or by hired labor. The danger of intrusting the construction of such important work, which after completion is covered up from sight, to a contractor whose sole object, legitimate as it may be, is to make a profit out of it, is obvious. For the more extensive works, the cost of

which justifies the employment of an adequate force of inspectors, the contract system can be made to answer reasonably well, but in the large number of minor constructions, scattered over the city, difficulty has been found in the maintenance of such rigid supervision as can insure the satisfactory performance of the work. In all these cases it should be done by hired labor, under competent management, and the modification of the law would effect in numerous cases the saving of a considerable percentage of the total cost, as well as furnish security that these works would discharge their functions without failure.

The appropriation of last year for the first time made provision for the construction of suburban sewers, a much-needed work, which, having been commenced, should be considerably extended beyond what it is possible at the present time to project. The propriety and need of sewerage for the service of aggregations of people is not questioned by any one competent to give an opinion upon the subject, and the rapid extension of the outlying areas suggests the necessity of making provision for the establishment of trunk lines of sewers for the drainage of localities already occupied and those in process of development. With the last appropriation a sewer has been projected, and will shortly be completed, on the line of New Jersey avenue extended and the cross streets intervening between Boundary and Mount Pleasant. A sewer has also been projected to extend through Le Droit Park, along Linden street, for the drainage of that locality and of Howard University and the area in its vicinity. A sewer has also been constructed in Anacostia.

The topography of the Rock Creek Valley is such as to make it a natural conduit for drainage, but other considerations suggest the desirability of keeping it free from pollution, and ultimately considerable constructions will be required to accomplish this object. A thorough study of the entire subject is needful, and the preparation of final plans should precede extensive construction.

The increase of sewer work and its specialized character made it necessary to establish a separate division of the engineer department, to have charge of the subject and the details of construction. In the absence of any existing provision in the appropriation act, the division was temporarily organized under Mr. McComb, assistant engineer, and has been included in the estimates for next year.

STREET IMPROVEMENTS.

This subject is the occasion of more contention on the part of the citizens and the source of more embarrassment to the Commissioners than almost any other.

All owners of property are interested in procuring pavements, curbs, and sidewalks for the streets upon which their premises abut, or which give access thereto, and the urgent petitions for street improvements annually aggregate in value a much larger sum than can by possibility be allotted to this purpose in the estimates of the Commissioners. For example, out of petitions for the ensuing year aggregating \$2,500,000 it is practicable, having due regard to other important matters, to allot but \$800,000, leaving two-thirds of the petitioners without prospect of present relief; and as though this did not impose upon the Commissioners a sufficiently harassing and thankless task in the discrimination that must be exercised in selecting the streets to be improved, the matter is additionally complicated in the public mind by jealousies and rivalries between the several sections of the city, each urging its own claims for preference and disparaging those of the others.

Having reached a preliminary adjustment of the matter and prepared a schedule of streets to be improved, which under the provisions of law is to accompany the estimates and constitute a part of the appropriation act, further difficulty is found in the fact that the appropriations as finally made are generally insufficient to complete all the work estimated for, and further reductions and discriminations follow.

An endeavor was made during the past year to arrive at some satisfactory system which should regulate the distribution of street improvements, and an allotment was made in accordance with a table of percentages which took account of the area, assessed valuations, and population of the several sections, and the mean per cent. was adopted as that regulating the distribution of expenditures.

For the ensuing year this plan has been followed, amending the former average percentage of area, value, and population by the incorporation of the percentage of streets to be improved in each section, representing what may be considered the "needs" of the section in question, and with an important additional feature of the division of the total estimates into two parts, viz, a general schedule and a special schedule.

The "general schedule" is intended to provide for the improvement of streets which are regarded as of public importance, independent of their special locality.

This would naturally include important lines of communication, such as Maryland avenue, Pennsylvania avenue, Four-and-a-half street, Seventh street, and others, and would provide for the removal of the residue of the old wood pavements and for the filling of gaps in existing streets, such as C street south, in order to make a continuous improved surface from one section to the other.

The "special schedule" is then constructed by allotting the remainder of the appropriation to the several sections in accordance with the average percentage of area, population, valuation, and needs.

It is not to be expected, however, that entire satisfaction will be had or complaint obviated by this or any means short of appropriating the full amount petitioned for.

The carefully-prepared tables which accompany the report of Captain Griffin fully illustrate the subject, and further show, as was stated in last year's report, that upon the whole the distribution of the allotments since 1878 under the present form of government has been substantially equitable, taking into account the respective features of each section.

Unless some such plan as this can be regarded as satisfactory it will be needful to make a radical change in the present system of street improvements, and either to proceed by the gradual extension of improved streets beyond the present area, without consideration of individual petitions and allotment to sections, or to base the improvement upon the petition of owners, conditioned upon their assuming a certain proportion of the cost of the work.

The Commissioners believe, however, that the present system should continue for at least another year, and until further experience shall show whether local jealousies may subside and individual expressions of discontent be modified.

It may be stated that the estimated cost of providing for all the unimproved streets within the city limits is, approximately, \$7,000,000; so that annual appropriations of \$700,000 would require ten years to complete the work.

STREET PAVING.

Unremitting attention has been given to this subject in Washington for many years, and the thoroughness of the supervision and the intel-

ligent system of experimentation pursued have attained results that constitute the pavements of Washington one of the great advantages and attractions of the city and establish them as models of construction under similar circumstances elsewhere.

A mass of detailed information upon the subject, of great value and interest, is embodied in the reports of Captain Griffin and the superintendent of streets.

There are four pavements now in service in Washington which are regarded as having special adaptation to the needs of the city under somewhat varying circumstances.

The two sheet pavements, viz, the "standard asphalt," with a 6-inch hydraulic base and 2½-inch wearing surface, and the "coal-tar distillate and asphalt," with a 4-inch bituminous base and 2-inch wearing surface, represent the survivors of the considerable number of composite pavements heretofore tried.

It is the standard asphalt with which the greater part of the street surfaces has been paved.

The asphalt block has been found very satisfactory for streets of light traffic, and recent improvements in the manufacture of the blocks, giving them greater density and uniformity of structure, have enhanced their practical value.

The stone-block pavement is only used upon streets of heavy traffic and in the vicinity of commercial establishments, for the freighting of heavy loads. In a few instances, also, it has been preferred for the paving of the steeper street grades.

The appropriation act for the last year limited the price to be paid for the sheet asphalt pavements to \$2 per square yard, 25 cents less than had theretofore been paid under contract for them.

Both the sheet pavements described are of a high order of excellence, varying in minor particulars of relative advantage. The company refused to make contract for the standard asphalt pavement at \$2, and submitted a modified proposition under which the 6-inch hydraulic base should be reduced to 4 inches, and the strength of the concrete increased by the admixture of Portland cement with the native hydraulic in such proportion as should make the 4-inch base in effect as rigid as the 6. This the company were prepared to lay at \$2, and contract for the paving of a few streets was made with them to that effect.

It is manifest that if a 4-inch bituminous base is ample to support the traffic, and the experience of twelve years has shown that it is, a 4-inch hydraulic base might at least be expected to answer the same purpose, especially if its completion were so modified as to warrant the judgment that its ultimate resistance would equal that of the 6 as formerly laid.

A certain objection to this action of the Commissioners has been expressed, and a further stipulation was introduced in the last appropriation act calling for the retention of the full depth of 6 inches.

It is obvious that if a depth of base of 4 inches is enough a greater thickness is only an unnecessary expense, and as in all cases the construction of these pavements is conducted with great care under rigid inspection, with proportions exactly determined and the quality of the materials thoroughly ascertained, and as the contractor is responsible for the maintenance of the pavement for five years, the only effect of fixing the dimensions of the pavement in the appropriation act is to increase the cost of construction, the general provision of law that new pavements shall be in no respect inferior to the best laid being all that was legally necessary to regulate their durability and character.

The result has been to deprive the District of the opportunity of securing the standard asphalt, with which the greater proportion of the streets of Washington is paved, and to compel reliance solely upon the coal tar and distillate pavements, which by reason of the lower cost of the coal tar and of the 4-inch bituminous base, can be laid within the legal limit imposed.

While the distillate pavement is recognized as an excellent one, it has a disadvantage, as compared with the asphalt, which may be regarded as important, namely, that the cohesion between the surface and the base is so intimate as to prevent the pavement from being stripped when repairs are necessary. In course of time, therefore, successive repairs will result in undue thickening of the pavement and its elevation above the proper grade.

It is doubtful, also, if the pavement itself can be laid with that certainty of result as to the delicate balance between undue hardening in winter and undue softening in summer, which has been reached by the standard asphalt. Every endeavor has been made to accomplish this, since no alternative offered, and the services of the District chemist have proved extremely valuable in this direction.

Great improvements have been made during the past year in the laying of curb and footways, but with reference to these latter, in particular, much remains to be accomplished. Brick sidewalks may be regarded as obsolete for improved streets, their sole merit being the cheapness with which they can be originally laid. The footways of the city should be at least as pleasant and satisfactory to traverse as the streets, and to accomplish this some form of sheet pavement of moderate cost within say \$1 per yard is desirable.

At the present time the asphalt tile is regarded as on the whole the most acceptable. In individual cases, the granolithic pavement, which really has no superior, has been laid by the owners of premises, but the price of 35 cents per square foot is prohibitory on a large scale.

STREET CLEANING.

The expense of cleaning the streets must increase year by year with the expansion of street surface and their greater use. The present appropriation makes it practicable to do a certain amount of sweeping only, the basis of the contract being 1,000 square yards swept and the material collected and carted away.

The frequency with which streets are swept is at the present time insufficient to keep them in satisfactory condition. A large number are swept but twice a week, once a week, and once in two weeks, and the interval elapsing between the visits of the sweeper is such that before the ensuing visit the street is littered with refuse. The sole remedy is such gradual increase of the appropriation as will suffice to meet the object, although the cost of the service, as based upon the contract price per 1,000 yards, would be diminished by the establishment of suitable plant for the burning of the material in connection with that of garbage, and so reduce the cost of collection and disposal.

The present street sweeping machinery is not by any means as perfect as it can be made, and it is deficient in means of taking up the material, when swept from the streets toward the gutter, otherwise than by the use of the broom and shovel. What is needed in this direction is the supplementing of an improved street-sweeping machine by another which should effectually clean up the winrows without the interposition of gangs of laborers, but it is not known that machinery of this kind is at present in operation.

STREET LIGHTING.

In the matter of street lighting, while it is believed on the whole that the gas companies maintain a fair approximation to the standards of purity and candle-power required by law, the actual illumination of the streets of Washington is insufficient, as the width of the streets and the prevalence of foliage tend to diminish the relative effectiveness of the lamps. The cost of these per annum is fixed by law at \$20, and their number is therefore regulated by the amount of the appropriation.

As the price paid is at least moderate, no diminution can be made in this direction, and in order to increase the number of lamps to meet the actual city needs, additional means must be provided. Congress recognized this fact in the last appropriation by increasing the amount, and a still further increase will be needful hereafter, as considerable areas of the city are to-day without proper illumination, rendering them in some cases unsafe for passers after nightfall.

Furthermore, in order to maintain even the existing number of lamps, the economical practice has been followed of omitting to light them when the moon is expected to shine, but this source of illumination can not be relied upon, and the average number of hours of lighting should be increased from 2,600 to at least 3,000.

During the past year, 43 electric lights were maintained, and with an increased appropriation for the current year, it is proposed to double the number. The science of electric lighting has made rapid advance within the past few years, and is now accepted as an indispensable adjunct of municipal engineering.

Pennsylvania avenue between Fifteenth and First streets, a portion of F street from Fifteenth to Ninth, and Seventh street from Pennsylvania avenue to O street, are now lighted by electric lights. It is proposed to continue the lighting of Pennsylvania avenue westward to Washington circle, to light New York avenue and Fourteenth street in the vicinity of G street, and later, as funds are available, to extend this service.

The presence in the air and in proximity to buildings of electric cables carrying currents of high tension, is recognized as a certain source of danger, and strenuous endeavors are making to discover some reliable means by which these high currents can be carried in underground conduits without loss of power.

On Seventh street the new lights are carried upon poles, since air-lines were already in existence, but on the westward extension of the line on Pennsylvania avenue the company is constructing conduits of terra cotta bedded upon concrete and having cemented joints to exclude dampness, through which the cables are to be drawn. If this experiment be found not to give entire satisfaction, it is still believed that other means will shortly be found to accomplish the same end.

The system of electric lighting is peculiarly applicable to Washington, and its manifold advantages are recognized as soon as seen. It is hoped that provision will be made in the near future for the permanent establishment of these lights, at any rate upon the more important streets and avenues and lines of communication.

INSPECTOR OF GAS AND METERS.

Referring to the report of the inspector of gas and meters, it will be seen that the laboratory work of the inspector demonstrates moderate variations from time to time in the pressure and candle power of the

gas, but observation of the actual lighting in the streets indicates that means should be taken to improve the character of the public lamps by the substitution of improved forms of burners for those now in use.

In this connection the attention of Congress is invited to the apparently incongruous relation of the inspector to the District government, which maintains the service and pays his salary, and who should be therefore a regularly appointed employé of the District. By the act of Congress approved June 23, 1874, which is still in force, the appointment of the inspector is vested in the President, and confirmation is required by the Senate of the United States. It is recommended that this act be so modified as to constitute the inspectorship of gas and meters a regular bureau of the District government.

THE PARKING COMMISSION.

The report of the parking commission gives much interesting data not heretofore available with reference to the number and variety of the trees in the streets, and indicates the rapid annual extension of the field which has been so carefully and intelligently cultivated.

It is believed that a solution of the tree-box problem has been found in the use of galvanized iron-wire netting loosely enveloping the tree for its protection, and for those not needing the actual support of the box, replacing it advantageously without impairing the appearance of the streets or serving as a harbor for caterpillars.

The commission has combated the caterpillar plague with gratifying success, and their report contains interesting and valuable data upon this subject, but it has required unremitting attention and labor, and due security will hereafter suggest the granting of more liberal appropriations in order that the force employed by the commission may be judiciously enlarged.

TELEGRAPH AND TELEPHONE SERVICE.

The construction and maintenance of a telegraph and telephone system under the control of the District, especially in connection with the police and fire departments, is indispensable to the due efficiency of those important branches. In addition the District offices should be connected as well as the schools, so that intercommunication may be possible over the city partly through the District plant and partly through the telephone company lines.

The principal difficulty in all this matter of telegraph and telephones in the city limits is the urgency always brought to bear for the increase of poles and air lines.

The telephone company lays cables in the streets and poles and air lines in the alleys. The telegraph companies have heretofore maintained air lines only and are naturally unwilling to go to the expense of underground conduits, notwithstanding the fact that they recognize the advantages of these and the economy of maintenance after original construction.

It is believed that the solution of this matter will best be reached by the division of the original cost between the District and the companies, and that along the trunk lines at least of telegraph wires, such as on G street, underground conduits should be constructed of such dimensions as to enable a man to pass upright through them, in which the numerous wires of the telegraph and telephone companies of the District and

of the General Government can be carried, replaced, and repaired without difficulty.

Nearly all of the larger cities of the country, appreciating the necessity for dispensing with air lines have procured legislation to this end. It would seem especially proper and needful for the benefit of the District that Congress should take similar action. As a preliminary thereto provision should be made for the placing underground of those wires at least that are exclusively maintained for the service of the District.

The appropriation of \$7,500 made during the past year was expended for the removal of two lines of poles which had been abandoned by the companies owning them, and were maintained only by the presence upon them of the District wires.

The work should be continued to completion. The practical difficulties involved are trifling, although owing to the length of these lines the expense at the outset is considerable. The report of the superintendent of the district telegraph and telephone service contains data with regard to this matter.

PERMIT SYSTEM.

The maintenance of the numerous alleys in the city in proper condition is a source of constant difficulty, as many of them are of such narrow dimensions as to forbid the entrance of a cart, and others are not paved at all or are paved so badly, as to make it impossible to remove surface deposits.

At the present time the paving of alleys and the repair and replacement of sidewalks, as well as the laying of minor sewers as in alleys, is provided for under the appropriations for permit work, and the reports of the superintendent of streets and the superintendent of sewers contain detailed information with reference to this. The large number of alleys requiring improvement and of sidewalks needing replacement and repair is such as to suggest either that separate provision be made for these objects or that the permit fund be increased.

The permit system has been found in practice very satisfactory both to the District and the citizens, and has been for some years past annually recognized in the appropriation acts as legitimate and proper. It provides for a division of the expense of the work between the District and the owner, the former supplying the material and the latter paying for the labor. By this means the work is done at cost only to the owner and in a manner satisfactory to the District without the interposition of contractors. It is believed that the system is beneficial and should be retained and expanded for work of this and similar character.

EXTENSION OF STREETS AND AVENUES.

During the past year a Senate resolution, dated August 4, 1886, called upon the Commissioners to submit a project for the extension of the streets and avenues of the city over the area lying northward from Boundary to Spring road and between Rock Creek and Lincoln avenue. The Commissioners submitted a project, a copy of which accompanies this report, and a map was prepared showing the principal features. No final action was had at the last session prior to adjournment and in consequence the property interests within the area named have been considerably embarrassed by the uncertainty as to what would eventually be the disposition of the subject. This uncertainty affects values

and tends to discourage the improvement of the region, and it is needful that the matter be finally determined.

During the past year the Commissioners took steps to extend Massachusetts avenue from its present western terminus at Boundary to a proposed crossing at Rock Creek, and accepted the dedication of the route over the portions named, and thence westward as far as Tennallytown road for the full width of the avenue within the city, viz, 160 feet. As the action of the Commissioners in this regard was widely misrepresented, a full statement with regard thereto was prepared and submitted to the Subcommittee on Appropriations of the House, a copy whereof is appended to this report.

Numerous dedications of streets have been made and accepted by the Commissioners, and none of the valuable public easements thus secured has involved any cost to the District. In the area lying between Lincoln avenue and Le Droit Park, between Boundary and the Soldiers' Home, nearly all the streets which upon consideration were found desirable have been dedicated and accepted.

The opening of North Capitol street has been secured for its entire length, with the exception of a single owner.

Upon the petition of a large majority of the neighboring owners the Commissioners took steps to widen the Columbia road, an important outlet from the northwestern section. The objection of a few owners prevented this, the court holding that while the Commissioners had the power an appropriation was needful, even though it appeared that the District was guaranteed against payment of damages. In order to meet this objection of the court, an estimate has been made for a moderate sum for similar purposes, although in every case of this character the Commissioners have made the condition precedent to their action that it should clearly appear that no payments would be needful.

Another proposition which has been submitted to the Commissioners is the eastward extension of Pennsylvania avenue beyond the Eastern Branch. The passage of an appropriation for the construction of the bridge approximately upon this line suggested the desirability of extending this important thoroughfare to connect with the Bowen road near the District line, and surveys have been made to that end and estimates submitted for beginning the construction after dedication of the ground shall have been made by the owners.

Under the appropriations made for the construction and extension of county roads, the Tennallytown and Bladensburgh roads have been completed to the District line, as also the Bennings road to the Eastern Branch. These roads were built in the approved methods which have been followed by the engineer department, viz, a solid hearting of macadam from 14 to 16 feet wide and a foot in thickness, bordered on both sides by a lighter construction of gravel road for summer traffic.

It seems desirable hereafter in estimating for the construction of these and similar thoroughfares that, in addition to the road surface and the gutters for drainage, foot-ways and bridle-paths should also be provided. This can be done at small additional expense.

At the instance of the Commissioners the last appropriation act made a valuable distinction between the construction of new suburban highways and the maintenance and repair of existing ones. It is evident that the appropriation for keeping the present roads in good order should not be crippled by charging new constructions against it, but that these should be specially and individually provided for, as in the case of other improvements.

MAINTENANCE OF COUNTY ROADS.

The considerable and increasing extent of these highways annually involves greater expense upon the District for their proper maintenance, and it is with the utmost difficulty that the limited sums now available for this purpose can be stretched to keep them passable. Not only are they the means of communication from farming regions beyond and of points within the jurisdiction of the District, but they are sources of great public enjoyment and benefit for riding, driving, and walking. Heretofore the repairs have been made by means of working parties taking the several roads in succession, but the intervals necessarily elapsing between one opportunity and the succeeding one for the repair of a road prevent its maintenance in that condition of efficiency that it should have, and increase the ultimate expense. During the past year, therefore, a system of supervision has been partially put in operation which has been found advantageous elsewhere, viz, the distribution of men over certain lengths of road whose business it is to keep the section in their charge in good order at all times. The complete establishment of this patrol system involves some extra expense at the outset, but in the end it will ultimately be found both economical and satisfactory.

TOPOGRAPHICAL SURVEY OF THE DISTRICT.

This survey has been in progress for several years with limited appropriations, and is gradually extending so that at the same rate about three or four years longer will be required to cover the area embraced within the District boundaries. The work as it proceeded has been carefully executed and platted by the officers of the Coast Survey, and the resulting maps are invaluable for the determination of lines of communication and extension of streets and roads. With this survey completed and mapped much delay and expense would be saved to the District, and it is recommended that Congress make provision by appropriating the moderate sum required for the immediate completion of the work and enabling it to continue uninterruptedly to the close.

SUBDIVISION OF PROPERTY.

The absence of due regulation by law of this important matter is prejudicial both to private and public interests and has proved a great source of embarrassment in the practical administration of affairs. In the region lying exterior to the former city limits the single wholesome provision relative to subdivisions is that while the property owners may lay out lots, alleys, streets, and avenues as they choose, the Commissioners need not accept the highways as public if deemed disadvantageous to the public interest. This gives but little control of the subject, however, and an official delineation of the main routes at least should be had in order to compel conformity therewith and prevent multiplication of minor subdivisions without individual coherence or conformity with any plan.

Within the city it appears that the right of the property owner to subdivide his property in any manner that he may choose is absolute and final, the law making it mandatory upon the surveyor of the District to record the proposed subdivision independently of any control by the constituted authorities or of other condition than that the subdivision in area and limits shall conform to the former plat. By this means

small lots and narrow alleys have been multiplied to a great extent, particularly in the interior of squares, and the practice, unless checked, will ultimately result in conditions extremely disadvantageous to the public.

It is suggested that an enactment similar in general features to the bill introduced at the last session of Congress, and upon which final action was not had, would be advantageous.

In this connection the attention of Congress is invited to the relations of the surveyor to the District. The present surveyor is a man of intelligence and fidelity, who has discharged his duties acceptably for a number of years. He is not, however, a salaried officer of the Government, but is paid by fees for work performed which are exacted alike from private owners and from the District in case of need. The office is insufficiently equipped for the rapidly enlarging amount of work to be done and the records of the office are not under satisfactory control of the District authorities.

It is recommended that a change be made in this regard and that Congress declare the records, plats, maps, notes, and other data of the surveyor's office as public records and constitute the surveyor himself a salaried officer, making provision for suitable assistants and the maintenance of the service upon like terms and conditions with other departments of the District government.

PUBLIC PARKS.

Notwithstanding the liberal provision throughout the city for minor public areas, such as the reservations, squares, and street intersections, the District has no park except the mall lying between the Capitol and Seventeenth street west, B street north, and B street south, the eastern portion of which is cut off from the western portion by the tracks of the Baltimore and Potomac road on Sixth street. In addition to this disadvantage the mall is separated from the northern portion of the city by a certain area south of Pennsylvania avenue, the character of which, lying as it does in the heart of the city, is far from satisfactory. As this area shows little progress or prospect of improvement under the present circumstances, it may be well to suggest the propriety of taking such measures with regard to the amelioration of its condition as shall seem most judicious.

Were the south side of Pennsylvania avenue adopted as a suitable site for such additional public buildings as the needs of the General or District government should require, the construction of these involving the condemnation of lands would be of great benefit.

Should this policy not be practicable, the alternative would be to condemn a considerable portion of the area in question, which now possesses no great value, and constitute it an addition to the mall adjoining it on the south, and thus fill up the angle between the mall and the ground south of the White House, to the obvious advantage of both public spaces. In connection with this the condemnation of the two squares lying between Fourteenth and Fifteenth streets and B and C streets south, one of which is now occupied by the Bureau of Engraving and Printing, would make a valuable acquisition, and the eastward extension of Virginia avenue through the Monument grounds to the intersection of Fourteenth and B streets southwest suggests itself as a desirable public improvement.

Exterior to the city, the District at the present time has no park, although the advantages of the grounds belonging to the Soldiers' Home

in this connection are obvious. Nevertheless, in these the public has no legal right, and could find the gates closed against them without remedy.

The proposition of a public park in the valley of Rock Creek has for a long time been advocated, and a bill making provision for this and for the procurement of a right of way in the valley for a park drive was favorably acted upon by the Senate at the last session of Congress. The report made by the Commissioners upon this subject will be found as an appendix.

It is not doubted that the ultimate construction of the drive-way in the valley of Rock Creek will be found desirable. The right of way for a considerable distance has already been secured, and there are no serious obstacles toward the accomplishment of the project. Throughout the greater portion of the route it is probably not needful to secure more than a width of 60 or 100 feet for the drive-way.

For the purpose of the park proper the area at present almost entirely unimproved, and in great part heavily wooded, lying between Piney Branch on the south, Fourteenth street road on the east, Military road on the north, and Broad Branch road and Rock Creek on the west, present itself as naturally adapted for the purpose in question. If this suggestion, however, is to be acted upon and the lands procured at a reasonable valuation, it would be needful to take steps to condemn them at an early day before the subdivision of any considerable portion of the area should enhance values and make prices prohibitory.

The area in question incloses about 950 acres of great natural beauty and picturesqueness, and for the purposes of a park little more need be done than to maintain the existing roads, with some additions, and to open bridle-paths and footways. This land at the present time is valued upon the books of the assessor at about \$116,000.

It is proper to invite attention to some uncertainty of jurisdiction over the public spaces formed by street intersections. In many cases these have been heretofore improved and cared for, embellished with turf and plants, and suitably inclosed with low chain and pipe fences, under direction of the office of Public Buildings and Grounds.

The advantages of this arrangement and the saving of expense to the District have been accepted by the District authorities, but in several instances the inclosing of the space has been at the cost of unduly narrowing the passage way, even to the complete obliteration of the foot-way, as on Massachusetts avenue.

In other cases it has been needful to extend or repair the lines of sewer and water pipes within the inclosures of these so-called reservations where they overlapped the sidewalks and parkings, and embarrassment has ensued from the lack of recognized distinction between their character as legal Government reservations and public street spaces under control of the Commissioners.

It is desirable that an authoritative decision be had as to the jurisdiction over these areas.

BRIDGES.

The means of communication across streams within the District and adjacent thereto are far from satisfactory.

Long Bridge is practically in the control of the Baltimore and Potomac Railroad, and is an unsightly wooden structure with limited spans and head room, which the frequent passage of trains renders practically useless for other than such animals as do not object to the immediate vicinity of the cars and locomotives.

In view of the necessity of some means of transit across the Potomac, the present location of the bridge can not be changed without radical alteration of the lines of railways which now connect with it; but if the existing arrangements are to continue, the controlling companies should be required to replace it with a bridge of better construction, more durable material, and greater space and elevation over the navigable channel.

The old Aqueduct Bridge, connecting Georgetown with Virginia, was found to have reached such a state of dilapidation and decay as to be dangerous to the public. Advantage was taken of the bursting of the canal aqueduct and the consequent emptying of the trunk to make a careful examination, which revealed a condition of affairs rendering it incumbent upon the Commissioners to close the bridge to traffic.

Appropriation for the reconstruction of the bridge as an iron structure has since been made by Congress, and the work is now proceeding under the direction of the War Department of the General Government.

The Anacostia or Navy-Yard Bridge across the Eastern Branch is insufficient either in strength or dimensions for public convenience or traffic. While it may answer for some time to come, it will ultimately be desirable to widen and strengthen the bridge, and advantage of the opportunity could probably be taken to reconstruct a considerable portion of it as an embankment or causeway.

The Pennsylvania Avenue Bridge is under contract, and its construction has been commenced under the same direction as the Aqueduct Bridge.

Benning's Bridge is a wooden structure, which may be regarded as answering present requirements. In connection with the improvement of the Benning's road the causeway leading through marshes has been raised and widened, and a macadam roadway constructed upon it.

The condition of the four bridges across Rock Creek within the city limits is extremely unsatisfactory, and their reconstruction will presently be needful with greater dimensions and stability.

Above the city, in the valley of Rock Creek proper, an iron bridge was built at the ford where the Klinge branch of the Pierce's Mill road from Mount Pleasant reaches the junction on the western shore of the creek of the Klinge road and the Nourse road, the former leading to the Woodley Lane, the latter to the Tenallytown road.

The Woodley Bridge crosses the creek at such a low elevation as to make excessive slopes to and from it, and the Commissioners have submitted an estimate for its reconstruction at a greater height.

The bridge at Pierce's Mill is a wooden structure, requiring frequent repair, and will need to be replaced in the near future.

HARBOR FRONT.

The limited appropriation of \$2,500 made in the last appropriation act to cover the improvement and protection of the harbor and river front, the enforcement of laws and regulations, and the construction and maintenance of wharves and buildings, made it impracticable to undertake any serious work for the betterment of harbor conditions, and the question at issue as to the title to the ownership of a large portion of the harbor frontage, which also happens to be the most important part of it, has postponed the consideration of plans.

Among the principal items of expenditure, were adequate funds appropriated by Congress, would be the construction of harbor bulkheads and wharves and the procurement of a harbor boat, to aid the police

and fire department and the harbor master in the discharge of their respective duties, so constructed as to be capable of use when necessary for the breaking of ice to clear the harbor or prevent a gorge and relieve vessels in distress.

The Commissioners are of opinion that so soon as these matters can be attended to without sacrifice of other considerations, provision should be made for them as well as for the preparation of a suitable code of harbor regulations, which is now entirely wanting.

STEAM RAILROADS AND STREET RAILROADS.

With reference to the subject of steam railroads, attention is invited to the report by the Commissioners under date of November 15, addressed to the Senate committee. The views therein formulated were carefully considered and are believed to be in effect both in the interests of the public and of the corporations themselves, and it is earnestly hoped that Congress will make at the ensuing session some final adjustment of this vexed and vexatious question and so define the limits and privileges of the roads as shall relieve the public of the present serious disadvantages and property interests of great value of an onerous and harassing burden.

With reference to the granting and extension of franchises for street railroads, the Commissioners are of opinion that provision should be made for the payment into the District treasury of such percentage of the gross receipts as Congress should deem equitable, and recommend that the constituted authorities of the District be given cognizance and supervision of the operations of the companies and due means of enforcement of their legal obligations and duties toward the public.

So far as the obstruction of streets due to the existence of street railway tracks is concerned, the Commissioners believe that the companies should be compelled to abandon the use of cobble-stones and make provision both for a proper rail and a proper pavement between them, and that no more than two tracks should be laid in any one street for the common use of such companies as are authorized to occupy said street.

Means should also be taken to remedy the crowded condition of Fifteenth street, between New York and Pennsylvania avenues, in the vicinity of the Treasury. Unless this street is to be widened, the Washington and Georgetown Railway should be required to remove its tracks and lay them either on Fourteenth street or on the road passing to the Treasury on the west and south.

The Metropolitan road should abandon the use of one-horse cars without conductors on its main line, and remove its stables from the present position on P street, west of the bridge, to avoid the objectionable transferring of passengers.

THE BUILDING INSPECTOR.

The report of the building inspector shows the great increase which has taken place, especially within the last two years, in the duties and responsibilities of his office.

It is estimated that the valuations of buildings furnished to the inspector at the time of obtaining permits for construction are on the average about 75 per cent. of the actual value; and whereas the reports for the fiscal year ending June 30, 1886, showed a construction account of about \$5,000,000, which was at the time the largest the District had

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known, the operations of the past year exceeded \$7,000,000, as shown in the tabulated statement accompanying the inspector's report.

It is evident that the duties of the office can no longer be adequately discharged by the force now authorized, particularly as the District buildings, including markets, police and fire stations, and schools, which are under the charge of the building inspector in addition to his other duties, are increasing in number, and their maintenance and repair require annually greater attention.

The Commissioners have included in their estimates provision for the needed additional assistance to the inspector, whose office at the present time is quite unable to bear in a satisfactory manner the onerous burdens imposed upon it.

During the past year it has also been made the duty of the building inspector to supervise assessments of water charges for building purposes, which his personal knowledge of the dimensions of the buildings enabled him to assess more equitably and to the considerable advantage of the service.

The building regulations adopted April 11, 1885, have undergone careful revision during the past summer, the Commissioners and the building inspector having been aided in the consideration of the subject by the Association of Architects and that of Master Builders. It is now believed that they are in a satisfactory form, with the errors and omissions amended and corrected.

THE PLUMBING REGULATIONS.

The original regulations adopted by the Commissioners under the provisions of the act of January 25, 1881, are at the present time admittedly defective and in need of revision.

The rapid development of sanitary science during the last ten years and the recognized evils due to defective plumbing material and practice have fully prepared the public mind for the necessity of precautions with regard to the domestic work of the plumber, and the serious results that may ensue from lack of knowledge and bad workmanship on his part are well understood. It is evident that the plumber, whose work if properly done tends to conserve the health and comfort of the family, but if ignorantly or roguishly performed is the inevitable forerunner of disease, should be a person thoroughly skilled in his craft and responsible for the proper execution of his work.

The Commissioners have sought, in the interest both of the public and the plumber, to secure this object and the elevation of the trade to the rank of an art, by an amendment to the plumbing regulations providing for the preliminary examination and licensing of plumbers before being permitted to ply their trade in the District, and have further undertaken, by means of a board appointed to that end, three of whom are employés of the District and two representatives of the Master Plumbers' Association, a complete revision of the existing regulations, taking advantage of the latest known improvements and most recently accepted laws.

Notwithstanding the fact that the Master Plumbers' Association itself submitted to the Commissioners an earnest petition to that end, opposition to this process of ascertainment of due qualification by preliminary examination has been made by certain plumbers, who have contested the right of the District to impose this prescription; and should it be finally decided that the present provisions of law are insufficient to enable the Commissioners to establish and enforce the prin-

ciple that the plumber should be a competent person and that his competence should be ascertained in advance and not through a series of experiments upon the health of the public, it is urged that Congress grant the necessary authority by suitable amendment of the existing law.

The business of the office of the inspector of plumbing increases *pari passu* with that of the inspector of buildings, and both with the increasing number of premises of which they have jurisdiction, and the service is not at the present time suitably equipped for the discharge of its important duties, as it is a matter of impossibility for the inspector to satisfy himself that the plumbing regulations have been complied with in the great number of cases.

Assistant inspectors should be provided for, and the act of January 25, 1881, should be so changed as to make it the duty of the inspector to examine not only all new houses and those in course of alteration, but to investigate also the existing plumbing arrangements in houses already constructed and to direct such changes to be made in them as shall insure conformity with the regulations and modern principles of plumbing.

DISTRICT CHEMIST.

At the present time the only chemist in the service of the District is designated in the appropriation acts "the inspector of asphalt and cements," an office originally created when the construction of the present improved pavements was begun.

Professor De Smedt, who held the office for many years and rendered valuable service, especially in the development of the standard asphalt pavement, resigned during the year owing to ill health and pressure of private occupation, and his place was taken by Professor Richardson.

Now that the District headquarters are provisionally established in a new building much more suitable for its purpose and possessing much greater accommodation than the former one, it is desirable to extend the duties of the District chemist to embrace a much wider field of usefulness than that to which he has been heretofore mainly restricted, and that the service be made to correspond more nearly with that of the corresponding officer in other communities. For this purpose a suitable general laboratory is required, wherein the chemist can make investigations not only of construction materials, but of matters relating to the wholesomeness of food and water, and examinations into poisoning cases and other cognate subjects as can be made of great benefit to the interests of the District. The incumbent of the office is amply qualified by training and experience for this enlarged sphere of work, and only needs additional assistance and opportunity to greatly enhance the value of his department.

CARE OF DISTRICT PROPERTY.

The care of the District property is a matter which has received needed attention, and it is proposed to a considerable extent to reorganize the present system of the property force, which from insufficient force has heretofore lacked that exact accounting of property purchased, issued, expended, and abandoned, which is needful for due protection of the District interests.

The absence of proper storage yards is always a serious disadvantage, as it is necessary to make use of the streets and public spaces for the

storage of material, which in some cases has been lost, whether by accidental covering up or the taking away by unauthorized persons.

Storage yards suitably inclosed and in charge of a keeper are needed, and the books of the property office should show accurate accounts of all property purchased, issued, and expended for all District purposes. This will require additional clerical force in the office, which, however, it is believed will be more than compensated for by the improved care of the property and the prevention of unnecessary loss.

EXAMINATION OF STEAM ENGINEERS.

Heretofore there has been no provision of law authorizing supervision of the employment of steam engineers in the District, and the result has been that numerous cases of incompetence and inefficiency have been disclosed.

The act of February 28, 1887, was the first endeavor that has been made to amend this dangerous condition of affairs, by making provision for the preliminary examination of steam engineers, the ascertainment of their qualification and reliability, and their subsequent licensing by the Commissioners. Recommendations for the amendment of certain defects in this law will be made hereafter to the proper committee; the principal points being the lack of effective measures for the enforcement of the law in case of failure to comply with its requirements, the absence of provision for the payment of the services of the examiners appointed by the Commissioners, and the incidental expenses of the service, and the exemption from the operation of the law of any person holding a Federal or State license. Federal licenses are issued only to marine engineers, and it does not follow that the person who may have obtained a marine license at some time in the past should be intrusted with the care of stationary steam machinery in the District, nor that a license procured from some State authority should necessarily be accepted as valid elsewhere than within the boundaries of that State.

The board, consisting of Messrs. Wilkerson, the District inspector of steam-boilers, as chairman, Duly as secretary, and Riley, have worked faithfully and discharged valuable services, having examined nearly all the steam engineers and steam plant in the District, and discovered and remedied, in part at least, very numerous cases of defective appliances and incompetent engineers.

The fees directed in the act to be collected from the licensees have been held by the Commissioners as a special deposit in the hands of the collector awaiting further action by Congress, since the law contains no instruction as to their disposition. It is presumed that it was intended that these fees should go to the examiners and be used in part to meet the necessary expenses of the service. It is hoped not only that the necessary corrections in the law will be made, but due compensation of the board of examiners for their past and future labors will be provided.

FIRE-ESCAPES.

The act of January 26, 1887, with relation to fire-escapes within the District, has been found in practice to contain certain defects which materially impair the usefulness of this much-needed legislation.

In order to comply with the provisions of the law, a board was constituted of the building inspector, chief of the fire department, and the superintendent of the water department, who have made careful inspection of all buildings in the District coming within the purview of the law,

and under the direction of the Commissioners have made orders with regard to the providing of fire-escapes.

The main defect in the law is the absence of means of enforcing it in cases where no owners in fee or for life exist or can be found, or where such owners fail or refuse to comply. The law contemplates the doing of the work in such case by the District, but there is no fund from which the necessary expenditure can be made, and the subsequent collection of the lien is not sufficient to meet the difficulty.

ELEVATORS.

In the case of the act of March 3, 1887, authorizing the Commissioners to make regulations for the construction, repair, and operation of all elevators within the District it has been possible to accomplish very little. There are numerous elevators in service in the District which should not be allowed to continue without material alteration, but the examination and supervision of these requires special knowledge of so technical a character as to call for the appointment of an inspector of elevators, without whose aid the provisions of the law can be neither intelligently nor effectively applied.

It is recommended that provision be made in the act for the employment and compensation of such an officer, authorizing the Commissioners to prescribe regular inspection from time to time, and a collection of a suitable fee for the service.

DISPOSAL OF GARBAGE.

The present arrangements for the disposal of house garbage and other similar waste matters are far from satisfactory, due largely to the fact that the current appropriation for this purpose is really insufficient to enable the contractor to deal adequately with the matter. At the present time the collections are made in accordance with a time schedule, forming part of the contract, and the materials are in part hauled to the river front and towed away in scows.

The contractor is aided by private undertakings of farmers and others who volunteer to collect the garbage within certain areas and to remove it for their own use, but the general system is one giving rise to many complaints and calling for amendment.

The cremation plan has been tried in other cities, and in some cases with marked success. It is thought that such would be the case in Washington, enabling the removals to be made more frequently and promptly and continuously throughout the year. The practical operation of this system has been so improved that a garbage cremator properly constructed can be depended upon to do its work thoroughly and inoffensively.

DISTRICT STABLE AND USE OF HORSES.

The constant increase in the duties and responsibilities of several of the branches of the District service make it necessary to provide in certain instances for speedier movement, or as an alternative a considerable increase in the number of employés.

There are several of the officers whose duties daily call them to numerous and widely distant points; for example, the superintendent of roads, the building inspector, the inspector of plumbing, the superintendent of streets, the general inspector of streets, the property clerk,

the District chemist, the superintendent of sewers, and the field parties for local surveying, and others. It has become a matter of physical impossibility for these officers to meet their daily official requirements without the aid of such transportation as will enable them to get from point to point with celerity.

No systematic provision at present exists for the care of the necessary animals. Part are at livery, part at hired stables, and part distributed among small stables within the control of the District. Suitable central accommodation for all these should be provided in a single stable of adequate dimensions and facilities, and the concentration of force will effect considerable economy in the service.

PUBLIC BATHS.

Other cities have provided for the advantage and enjoyment of their populations by the use of public baths. The extended river front of Washington and Georgetown furnishes ample opportunity for the construction of floating baths which should, when erected, be placed under the immediate supervision of the harbor-master, with local attendants in addition during the needful portions of the year.

Were the water supply of the city in more satisfactory condition the Commissioners would not hesitate to recommend in addition the establishment of permanent public baths at points remote from the river, and so constructed and maintained as to be capable of use throughout the year. Plans and estimates of these have been prepared, and the subject is one regarded as worthy the attention of Congress.

ROCK CREEK TUNNEL.

In pursuance of a numerous signed petition of prominent citizens of the District for the improvement of the sanitary condition of Rock Creek and of the means of communication between the cities of Washington and Georgetown, the Commissioners have procured the preparation of a project for the construction of a tunnel in the valley of Rock Creek between Lyons's mill and Pennsylvania avenue, to which the attention of Congress is invited.

In preparing the estimates for expenditures during the ensuing fiscal year the Commissioners made no provision for this work, deeming it a matter for the special consideration of Congress. It may be stated, however, that the construction of the tunnel and the filling up of the portion of the valley of Rock Creek which now constitutes a partial barrier between the two cities is a matter that at an early day may properly be considered, as with the increase of population, the discharge of sewage into Rock Creek, and the retention in the bed thereof of putrescible and noxious matters will become a menace to the public health; and the absence of proper means of communication between Washington and Georgetown is already felt to be a serious inconvenience if not a detriment to the public interests.

WILLIAM B. WEBB,
SAMUEL E. WHEATLEY,
WILLIAM LUDLOW,
Commissioners of the District of Columbia.

A.

EXTENSION OF MASSACHUSETTS AVENUE.

HOUSE OF REPRESENTATIVES, U. S.,
Washington, D. C., December 15, 1886.

DEAR SIR: As the projected extension of Massachusetts avenue from Boundary street to the Tennallytown Road has, as you are doubtless aware, been the subject of criticism in the press, I respectfully request that you prepare and forward, for the information of the Subcommittee having the District of Columbia appropriation bill in charge, as complete a statement as you may deem necessary of the reasons for the proposed extension and for the deflection of the avenue from its present line, the expenditure already incurred, and the estimated cost of the entire extension; also the ownership of the property through which it will run and when acquired, and generally all the facts necessary to a complete understanding of the whole matter in the light of the criticisms above referred to, or such of them as have been brought to your attention.

Very truly, yours,

WM. L. WILSON,
Chairman Subcommittee.

Col. WILLIAM LUDLOW,
Engineer Commissioner, D. C.

OFFICE OF THE ENGINEER COMMISSIONER,
Washington, D. C., December 28, 1886.

SIR: I have the honor to acknowledge the receipt of your letter of the 15th instant, requesting, in behalf of the committee, information with regard to the action of the Commissioners in making provision for the extension of Massachusetts avenue westwardly from its present terminus at Twenty-second street and across Rock Creek to the Tennallytown road.

Your letter asks a statement of the reasons for the proposed extension and for the deflection from the present line, the expenditures already incurred, and the estimated cost of the entire extension; also the ownership and date of acquisition of the lands traversed, and, generally, of all the facts necessary to a complete understanding on the part of the committee of the entire subject. With this request I take pleasure in complying, and will endeavor, as briefly as may be, to furnish the information desired.

The general reasons for the extension of Massachusetts avenue are given in the following extract from the Annual Report of the Commis-

sioners for 1886, recently submitted to Congress, pages 40-43, as follows :

The original plan of the city of Washington, in close conformity with which it has been actually constructed, is probably the best for the purpose that could have been devised. The rectangular system of north and south and east and west streets is overlaid by a system of diagonal avenues, making it possible to proceed in a direct line to almost any point, and the numerous intersections give rise to multiplied areas which have dotted the city with ornamental parks and reservations. The natural variations of contour within the former civic limits, not being excessive, permitted of such moderate changes of elevation as to render all the streets and avenues of practicable grade, and the Washington of to-day is the joint creation of its original designer, of the persistence with which for so many years of village existence that plan was adhered to, and ultimately of the energy and force with which its completion was accomplished. As the south and east limits were naturally those of the river fronts and the western those of Rock Creek, so the northern boundary skirted the hill or bluff which at a considerable elevation overlooks the city, and the present Boundary street defines its course.

As the city grew and taxes augmented, small settlements and holdings established themselves upon the outlying region, then the county of Washington. This involved at the time no serious disadvantage, but as the urban district became more fully occupied it was evident that sooner or later it would overflow its ancient limits and of necessity absorb into its jurisdiction a much larger area than was originally contemplated.

The great lines of communication between city and country had long since been established—Benning's road, Bladensburgh road, Brentwood road, Seventh street road, Fourteenth street road, and from Georgetown the Tennallytown pike—and as the outlying settlements grew and multiplied they conformed in some measure with the main routes, but in other respects displayed little prevision of the future enlargement of Washington, and no regard for the future extension of its streets and avenues.

This condition of affairs, notwithstanding the endeavors that have been made from time to time and with partial success to produce an amicable understanding between city and county in regard to the better adjustment of their streets, still endures, and if the extension of the Washington avenues into the suburbs through the numerous village subdivisions is now to be effected, it can only be by the condemnation of numerous small private holdings and the payment of considerable sums in damages to the dispossessed owners. That this must and will be done to a certain extent does not admit of doubt, but the fact indicates the necessity, in the case of other regions as yet undeveloped, of more sagacious administrative prevision than has heretofore been exhibited, and the absence of which in the past will involve a large expense in the immediate future.

But it is not alone the multiplicity of small holdings and the lack of conformity of suburban with urban streets that oppose the universal rectilinear prolongation of the city avenues. This at the worst is a matter of expense only. Topographical considerations likewise interpose objection. The differences of level and contour in much of the region lying beyond the boundary are too formidable to be overlooked or disregarded. In particular is this the case with the hill north of the city, and westward from Eleventh or Twelfth street to Rock Creek, and the difficulties of this character are still more greatly magnified when the question arises of effecting convenient and practicable communication across the deep, and in places precipitous, Rock Creek Valley. An examination of the map of the District discloses the fact that, with the exception of the north and west, the city is already supplied with convenient avenues of travel and traffic, with easy grades, leading to all other points, and the topographical difficulties inherent in the Rock Creek region and beyond to the north and west are such as to have prevented heretofore the opening of suitable lines of communication through this region. The Tennallytown road leading from the comparatively lower levels of Georgetown to the altitude of 400 feet above tide is the only present convenient means of access thereto. The Woodley lane and Pierce Mill roads from Washington are in effect country roads, winding their way down the hill-side, crossing the creek on wooden bridges a few feet only above the level of the stream, and thence making the difficult and circuitous ascent to the greater elevation of the Tennallytown pike.

Fully cognizant of the difficulties already referred to, arising out of the multiplication of minor subdivisions lying beyond the city limits and barring the extension of streets and avenues in their direction, and of the topographical difficulties inherent in the undeveloped area lying to the northwest, the very irregularity and altitude of which constitute for some purposes its greatest advantage, the District Commissioners, having carefully considered the needs of the District, and with the aid of the topographical information afforded by the recently completed maps from surveys made

under their direction, have contemplated the rectilinear extension of several of the existing avenues where it was believed to be desirable and where the rights of way and the dedication of easements could at the present time be procured without cost. It would have been well had action of this kind been taken many years since; but it is now imperative that advantage should be taken of the willingness of owners of unimproved property to conform their plans to the needs of the District and to dedicate such portions of their holdings as are necessary to secure the future establishment of important lines of communication.

The county roads in general, which exist exterior to the city limits, are winding in direction and variable in their grade, in many cases being so steep as to be practically prohibitory for other than merely pleasure purposes. For this reason the Commissioners have considered that when it became a question of the extension of an important line of communication the critical element of grade should be carefully conserved. This is especially needful in the case of the perfected asphalt pavements of Washington, which an undue steepness of slope renders dangerous. The maximum grade now in use in the city for smooth pavements is 4 or 4½ feet in the hundred. The Capitol is reached by a 6 per cent. grade, which is of undesirable steepness, and the northward extension of Sixteenth street now climbs up a 10 per cent. grade, which is practically prohibitory to traffic.

The Commissioners, therefore, decided that in extending any given avenue, its rectilinear prolongation should be preserved as far as practicable, and the avenue should be so laid out as to have no grade in excess of 4½ per cent.

With the appropriation of \$30,000 made for the first time in the current appropriation act for that special purpose, the necessary information has been secured, and in some cases dedications of certain lands lying in the course of the extension of streets have been accepted where such action involved no cost. This was the case with the northward extension of Eighteenth street in a rectilinear direction through the grounds of persons who were prepared to make the grant.

The extension of North Capitol street beyond the Boundary to the Soldiers' Home, constituting a direct line of communication from the Capitol to the only great park that Washington has, and in connection therewith the prolongation of Rhode Island avenue to Lincoln avenue through the same holdings, were considered a matter of sufficient importance to warrant the action of the Commissioners, after ascertaining that the holders of lands through which these extensions pass would, in a majority of cases, be willing to dedicate the full width of the avenues, and feeling assured that in the remaining instances the assessment of damages would be fully offset by that of the benefits to the remaining adjacent property.

In the case of Massachusetts avenue, after careful examination of the ground and of the accurate maps recently submitted by the officers in charge of the surveys, and after the preliminary running of several trial lines and the making of computations based thereon, the Commissioners decided upon a certain route as being that which was most in conformity with the public requirements and the topography of the ground and the most economical in construction, and assurances were secured from the owners of the property through which the avenue would pass that they were prepared to dedicate to the District the entire width of the avenue along any line upon which the Commissioners should determine and thereafter lay out their subdivisions in conformity therewith.

The extension as projected crosses the creek at an elevation of 95 feet above tide, and has no grade in excess of 4½ per cent. It is rectilinear, with the exception of one deflection of about 19 degrees.

This deflection is forced by the configuration of the Rock Creek Valley, which, bending eastward, occupies a large part of the direct route, and would render the construction of the avenue at the requisite elevation enormously costly, and in effect impracticable. The Oak Hill Cemetery also constitutes a formidable difficulty, as the necessary embankment would cover a considerable part of its occupied area. Furthermore, the direct line, after traversing Rock Creek Valley at an acute angle and passing the cemetery, enters a somewhat narrow valley, in which the construction of an avenue of the width and character of the one in question would be difficult and costly, and would then practically terminate at a low point on the Tennallytown road within the limits of Georgetown. It is proper to say that, while this important matter has been under careful consideration for a number of years, the conclusions heretofore reached, after prolonged study of the subject, have been the adoption of the line now proposed by the Commissioners, as the records of the engineer department of the District show.

The route as proposed passes through the northward portion of the grounds acquired by the Federal Government for the purpose of establishing the Naval Observatory, and as no authority exists in any of the Executive Departments nor in the District government to open a line of communication through these grounds except with the consent of Congress, the matter is respectfully submitted for the consideration of that body.

Apprehension has been expressed that the existence of the avenue through these grounds might in some measure interfere with the work of the Observatory, but this it is believed will not be the case. Provision can be made, if necessary, for the smooth coating of the road in its vicinity; and furthermore, most of the work is conducted at night, when the passage of vehicles would be infrequent. The Commissioners would regard with disfavor any proposition to utilize the proposed avenue for the purpose of establishing car lines or any similar traction facilities. From its central position and superior width the importance of Massachusetts avenue to the city of Washington is greater than that of any other except Pennsylvania avenue. At the present time it alone traverses the city unobstructed (except by the Baltimore and Ohio railroad tracks) from the Eastern Branch to Rock Creek, and its extension westward to effect a junction with the Tenallytown road, and in the future its possible still further prolongation to and beyond the boundary of the District, will constitute it the most superb and attractive highway in the world.

A minor country road leading from the Klinge Ford, on Rock Creek, to the Tennytown road, with the width of 75 feet, having been offered to the District without cost, was accepted after examination. It lies conveniently midway between the Woodley Lane and Pierce's Mill road, and in directness and ease of grade is superior to either.

It is not contemplated that any considerable expenditure will be required in the immediate future for the above or similar objects. The current appropriation for these purposes is \$30,000 only, although the Commissioners have asked for the fiscal year ending June 30, 1888, the further sum of \$60,000, in view of the possible condemnation of and payment for lands lying between the Soldiers' Home and Rock Creek.

For many years past this problem of the extension into the suburban regions of the streets and avenues of the city has been pressing for attention, and at the last session of Congress several bills, all containing features of more or less value, were introduced and received partial consideration, although the only legislative outcome was the passage of a Senate resolution which, relating to the provisions of Senate bill No. 2201, called upon the Commissioners to report to Congress at the ensuing session their views as to the proper laying out of all lines of communication, and of the cost thereof, within the area designated in the bill, viz, between Rock Creek, Piney Branch, Spring road, Rock Creek Church road, and the Soldiers' Home. The Senate omitted to make any special provision for the expense of this investigation. It has therefore necessarily proceeded with such assistance as during the active work of the season could be given by the regular engineer force, aided by the employment of an additional draughtsman. The information has to a large extent been gathered, and report will be made to Congress in time to receive legislative consideration.

The general considerations above given may be summarized as follows:

The region lying to the north and west of Rock Creek is now the only portion of the District not directly accessible from the city of Washington by a practicable highway, and extensive areas lie unimproved.

Massachusetts avenue is the most central and the handsomest thoroughfare in the city, and its westwardly extension will penetrate this region and develop its public utility and enjoyment.

The extension of Massachusetts avenue has for many years been the subject of consideration, and recent accurate topographical surveys under the direction of the District Commissioners now make possible a solution of which no one questions the ultimate necessity. In the projection of an important highway the engineering points to be considered are ease of gradient, directness of prolongation, adequacy of dimensions, economy of construction, and adaptation to needful public requirements; and the public interest obviously suggests that if the projection is to be made at all, the right of way should be secured, if possible, while the properties to be traversed are still unimproved and the lands so held in considerable unsubdivided areas, that the dedication of the public easement shall be voluntary on the part of the owners and therefore involve no cost to the District. If action be deferred until improvements are begun, the establishment of numerous subdivisions not in conformity with any general plan, nor with each other, will inevitably involve the later necessity of paying land damages.

The special reasons for providing at this time for the extension of Massachusetts avenue, on the line recommended by the Commissioners, are as follows:

In the current act of appropriations for the expenses of the District, approved July 9, 1886, Congress for the first time, and of its own motion, included an item of \$30,000 for "opening and extending suburban streets," the expenditure of the amount being left to the discretion of the Commissioners of the District, with the sole proviso that no existing street or avenue should be widened.

Since no other work of this character, approaching in importance and magnitude the extension of Massachusetts avenue to and beyond Rock Creek, presents itself at this time, attention was naturally directed to the matter which for some years has been under investigation by the engineer department of the District.

Other things being equal, the direct prolongation of the existing lines of the avenue would naturally be preferred, but having projected this line upon the map, it required but a glance at the topography to disclose the existence of formidable obstacles.

The direct line, upon leaving Twenty-second street, enters almost at once the valley of Rock Creek, which it crosses on a long diagonal at an elevation of about 75 feet, involving heavy stone-work and embankment. The route traverses the upper third of Oak Hill Cemetery, covering one and one half to two acres of its surface and seriously impairing the value of the whole, and thence enters a comparatively narrow valley with steep banks, necessitating heavy cutting into the hill on one side and filling on the other, with numerous culverts to provide for natural drainage, and finally reaches the Tenallytown road at a low point within the limits of Georgetown.

Following the Tenallytown road northward the ascent to Snyder's Hill and beyond is made up a steep gradient of 6 per cent. for a distance of over 1,000 feet. It was evident, therefore, that the direct prolongation of the avenue would not only be costly, by reason of the difficulties of construction, but in other respects unadvisable, because the urban characteristics of the avenue would be quite destroyed in the extension, by its conversion into a railway embankment, for nearly a thousand feet in the creek valley, and a sunken highway, dominated by elevations on both sides, thence to the Tenallytown road.

On the other hand, by making a moderate deflection, a direct crossing of Rock Creek could be secured, and the avenue throughout its length to the Tennallytown road could be made nearly upon the natural surface at favorable elevations, with great ease and uniformity of gradient, within the $4\frac{1}{2}$ per cent. limit.

After careful study of the topography several trial lines were run, and the results of the investigation are shown upon the accompanying map, upon which both the direct and projected routes are laid down, as well as the trial lines of 1886 and the preliminary lines of the engineer department made in 1881 and 1883. In accordance with the request contained in your letter, the map also shows the ownership of the several tracts through which the proposed avenue passes, with the date of their acquisition, the needful data having been obtained from the office of the recorder of deeds.

A comparative estimate of the cost of the two routes is as follows:

Estimate of cost of extending Massachusetts avenue from Boundary street to Tennallytown road.

Width of avenue.....	feet..	160
Maximum gradient.....	per cent..	41
Width of Rock Creek bridge	feet..	74
(50-foot roadway and two 12-foot sidewalks.)		

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Estimated cost of earthwork, 40 cents per cubic yard.

Cost of cutting and filling.	As projected.		Direct extension.	
	Amounts.	Cost.	Amounts.	Cost.
Distance.....feet.....	9,200		6,880	
Earthwork.....cubic yards.....	686,900	\$274,760.00	969,700	\$387,880.00
Culverts.....		7,135.00		54,415.00
Cost of bridges.....				
Length of bridges.....	300 ft.		550 ft.	
Substructure.....	\$313,600		\$594,888	
Superstructure.....	60,000	373,600.00	110,000	704,888.00
Total cost.....		655,495.00		1,151,183.00
Cost per foot of road.....		71.25		167.32

It will be observed that the length of the line as projected is 9,200 feet, and the total cost of construction, including the bridge, is \$655,495. The length of the direct extension is 6,880 feet, and the total cost \$1,151,183, making the total cost per foot of road in one case \$71.25; in the other, \$167.32—over two and one third times greater. In neither case are any land damages computed. In the case of the proposed extension written assurances were secured from the owners of the voluntary dedication of the entire width of the avenue, 160 feet, without expense to the District. In the cases of the direct extension heavy damages are inevitable. Between one and two acres of Oak Hill Cemetery would be covered by the roadway and its necessary slopes or retaining walls. In fact, it may be assumed that the entire value of the cemetery would be destroyed were the avenue constructed through its northern portion on the necessarily high embankment.

The degree and point of deflection of the avenue were the occasion of much careful study. Comparing the trial lines of 1881 and 1883 as shown on the map, it will be seen that the latter study of the subject indicated a deflection at the present terminus of the avenue on Twenty-second street; thence going direct to the terminal point on the Tennallytown road. The line as now proposed makes a similar deflection, but first prolongs the avenue about 500 feet and then makes the turn. The object of this is to avoid making the cut through a high tongue of land upon which is situated the house known as Kalorama, whereby the configuration of the ground would have been seriously impaired and the expense of construction considerably augmented.

The actual amount of the deflection could be reduced were it not that the new Naval Observatory stands in the way. Endeavor was made to affect to the least extent, if any, the convenience and uses of the Observatory, and the line as proposed, therefore, passes as far from it as a straight line can fairly go. The distance is about 700 feet, and it is believed, upon excellent authority, that with a smooth roadway past the Observatory no interference would be occasioned with its work. If, however, it be thought needful or advisable, a circle of 1,000 feet radius can be struck, with the Observatory as a center, and the avenue follow the curve at that distance.

After full consideration of the subject, as above recited, the Commissioners made publication of the proposed route, and a map and explanation thereof appeared in the Washington Post of October 20, 1886.

The advertisement of the Commissioners, in pursuance of the law requiring public notice of the proposed condemnation, was issued October

15, for a public hearing, to be had November 6, of objections, in the following terms:

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, D. C., October 15, 1886.

Deeming it conducive to the public interests to open a highway from the intersection of Boundary and Twenty-second streets and Massachusetts avenue, in a north-westwardly direction, to and across Rock Creek, through the lands of the heirs of Thomas R. Lovett, Evan Lyons, Gardiner G. Hubbard, John W. Thompson, and others, the Commissioners of the District of Columbia have had said route duly surveyed and a plat thereof prepared and filed in this office.

In compliance with the requirements of the law, notice is hereby given of the proposed opening of the highway as aforesaid, and all persons who have objections to present are directed to attend at the office of the Commissioners at 11 a. m., Saturday, the 6th day of November prox., at which time the Commissioners will give hearing to all persons in interest.

By order of the Commissioners of the District of Columbia:

WILLIAM TINDALL,
Secretary.

It will be observed that this notice included only the lands intervening between the present terminus of Massachusetts avenue and Rock Creek, with a small holding upon the west side of the creek sufficient only to provide for the construction of suitable approaches and abutments for the bridge structure. A representative from the Naval Observatory being present, inquired whether objections were in order from that interest, to which reply was made that since Congress alone could authorize the extension of the avenue through the Naval Observatory grounds, the Commissioners could take no action with regard thereto until duly authorized by Congress, and that, therefore, the Observatory interests were not affected by anything within the scope of the notice. All the properties affected being represented at the meeting, but one objection was made viz, on the part of Mr. Evan Lyons, who was unwilling to give the requisite right of way without compensation. In the case of the Kalorama property, owned by the Lovett heirs, as there were minors in interest the law presumed objection on their part, and therefore the subsequent jury proceedings for condemnation included both the Lyons property and the Kalorama property. Previous, however, to the final report from the jury Mr. Lyons withdrew his objection, in writing, and the jury, having examined the ground, considered and so reported that the benefits were a full offset to the damages.

The result of the proceedings, therefore, was, that to and beyond Rock Creek no damages were incurred. Beyond Rock Creek the Commissioners have written assurances of voluntary dedication, with the exception of passage through the Naval Observatory grounds, which requires the authorization of Congress.

With regard to the question of ownership, examination of the map will show that all of those lands which have been purchased in large blocks for purposes of improvement and sale were bought in 1883, and the deeds recorded in March and April, 1884, before any Government official appointed during the present administration was in office.

In delineating the proposed line it is obvious that since the route lies through grounds entirely under the control of Congress, and, of necessity, must be approved and confirmed by that body before a final adjustment can be reached, it could not be guided or forced otherwise than in the public interest.

As regards the construction of the road, the Commissioners have proposed only to grade the surface as far as Rock Creek, leaving future expenditures to be provided for as occasion required subsequent to the

construction of the bridge, and no estimate for the further extension at the present time was included in the estimates of the Commissioners for the ensuing fiscal year, since at the short session it was doubtful if action by Congress could be had beyond the authorization of the passage through the Observatory grounds, should the route be approved.

Referring to the total estimated cost, it will be observed that the expense of the construction of the avenue, other than the bridge, is about \$280,000, and the advantage of procuring rights of way through extensive tracts owned by persons of means desirous of improving them is shown by the expectation on the part of the Commissioners that by far the greater portion of the expenses of the construction of the road will be borne by the property owners themselves. In fact, a proffer from the owners was made to the Commissioners that the necessary sum be placed at their disposal for the construction, which offer was declined for the reason that it was not regarded as proper or expedient that the Commissioners should be responsible for the disbursement of other than public funds, whereupon the owners themselves have proceeded with the construction upon the lines laid down by the Commissioners, commencing at the Tenallytown road and building eastwardly.

The advantage to the District treasury of the opening of this road may be illustrated by the fact that at the present time the lands of the extensive area of the north and west are generally assessed as agricultural, and taxed \$1 a hundred upon the average valuation of \$120 to the acre, whereas in fact many of the lands are selling in blocks at from \$1,000 to \$2,000 an acre, and as soon as the avenue can be opened the rate of taxation can be increased and the District receipts from this source greatly augmented.

With regard to the newspaper publications from Washington touching the subject, and to which your letter refers, the Commissioners have nothing to say beyond what has already been stated, and the additional fact that the statements as published were made without any inquiry whatsoever at the District headquarters as to the actual circumstances of the case, and apparently without any disposition to know what the facts really were. None of the Commissioners has at any time had any personal interest whatsoever, large or small, direct or indirect, near or remote, in this or any other matter affecting their administrative action, and the attempt to impute to them such an interest is simply an altogether baseless and, in part at least, malicious slander.

The Commissioners made public their conclusions as soon as they had been fully reached, and it was not until several weeks after the official announcements that the newspaper clamor undertook to convert the matter into a sensational attack upon Federal and District officials.

The Commissioners, in this and all other administrative acts, will welcome the fullest inquiry from every official and respectable source; and if by any chance this statement of facts, prepared in compliance with your request and at the instance of the Commissioners themselves, fail in any particular to furnish the information desired, they will take pleasure in supplying it.

Very respectfully,

WILLIAM LUDLOW,
Engineer Commissioner, D. C.

Hon. W. L. WILSON,
*Chairman Subcommittee on Appropriations,
House of Representatives.*

B.

EXTENSION OF STREETS AND AVENUES.

[Communication from the Commissioners of the District of Columbia, in reply to Senate resolution of August 4, 1886, in regard to extension of streets and avenues as proposed in Senate bill No. 2201.]

OFFICE OF THE COMMISSIONERS
OF THE DISTRICT OF COLUMBIA,
Washington, January 22, 1887.

SIR: The following resolution was adopted by the United States Senate under date of August 4, 1886, and a duly certified copy thereof transmitted to the Commissioners:

Resolved, That the Commissioners of the District of Columbia are hereby directed to report to the Senate at its next meeting in December, in detail, the estimated cost of extending the streets and avenues on the northern boundary of the city of Washington as proposed by Senate bill No. 2201, and that they report what in their opinion is the best plan for such extension in regard to the angles of streets and contour of the ground.

The bill in question is one introduced under date of April 20, 1886, by Mr. Mahone, and was twice read and referred to the Committee on the District of Columbia. Its provisions in general are as follows:

Section 1 directs the Commissioners to survey and extend the streets and avenues of the city beyond the Boundary, and to lay out east and west streets, in practical conformity with the existing plan of the city, within the following-described area, viz: Between Rock Creek on the west, the Soldiers' Home and Lincoln avenue on the east, Piney Branch, Spring road, and Rock Creek Church road on the north, and Boundary street from P street bridge to Lincoln avenue on the south.

Section 2 directs the preparation of accurate plats of the ground, in order to provide for the condemnation of and due payment for lands and improvements.

Section 3 creates a commission to carry out the views of the Commissioners, and the subsequent sections to section 13 specify the duties of the commission and prescribe the methods to be pursued.

Section 13 directs the District Commissioners to lay out the Rock Creek Park from P street to the northwestern boundary of the District, and directs the condemnation of a tract not exceeding 2,000 feet in width.

Section 16 authorizes the issue by the District Commissioners of 3 per cent. bonds to an amount not exceeding two and one-half millions of dollars, and prescribes the dispositions to be made of the proceeds, and the payment of interest and sinking fund to extinguish the principal in fifty years.

Sections 21 and 22 forbid the recording of subdivisions not in conformity with the plan adopted.

Section 24 levies a special annual tax of 5 cents on \$100 of District real estate to meet the interest and sinking-fund account.

The bill as a whole has been carefully drawn and contains numerous excellent and well-considered provisions, some of which should be enacted independently of the disposition ultimately to be made of the bill itself, as, for example, that requiring all future subdivisions of land to conform with the general plan adopted, and that for the Rock Creek Park.

The Senate resolution, however, does not contemplate a discussion of the bill, and calls only for an expression of the views of the Commissioners as to the proper plan for the extension of the streets and avenues, and the cost thereof, within the designated area. This area, comprising about $2\frac{3}{4}$ square miles, lies northward from the northwestern section of the city, practically between North Capitol and Twenty-third streets extended, and includes within its limits a considerable population, and nearly all of the older settlements and subdivisions exterior to the Boundary. The existence of this resident population, and of the long-established subdivisions, which in few instances are in harmony with the plan of the city and with each other, constitute the most formidable obstacle to the projected extension, and enhance the ultimate cost of the work.

In this connection attention is invited to the following extract from the recent annual report of the Commissioners:

The original plan of the city of Washington, in close conformity with which it has been actually constructed, is probably the best for the purpose that could have been devised. The rectangular system of north and south and east and west streets is overlaid by a system of diagonal avenues, making it possible to proceed in a direct line to almost any point, and the numerous intersections give rise to multiplied areas which have dotted the city with ornamental parks and reservations. The natural variations of contour within the former civic limits not being excessive, permitted of such moderate changes of elevation as to render all the streets and avenues of practicable grade, and the Washington of to-day is the joint creation of its original designer, of the persistence with which for so many years of village existence that plan was adhered to, and ultimately of the energy and force with which its completion was accomplished. As the south and east limits were naturally those of the river fronts and the western those of Rock Creek, so the northern boundary skirted the hill or bluff which at a considerable elevation overlooks the city, and the present Boundary street defines its course.

As the city grew and taxes augmented, small settlements and holdings established themselves upon the outlying region, then the county of Washington. This involved at the time no serious disadvantage, but as the urban district became more fully occupied it was evident that sooner or later it would overflow its ancient limits and of necessity absorb into its jurisdiction a much larger area than was originally contemplated.

The great lines of communication between city and country had long since been established—Benning's road, Bladensburgh road, Brentwood road, Seventh street road, Fourteenth street road, and, from Georgetown, the Tennallytown pike—and as the outlying settlements grew and multiplied they conformed in some measure with the main routes, but in other respects displayed little prevision of the future enlargement of Washington and no regard for the future extension of its streets and avenues.

This condition of affairs, notwithstanding the endeavors that have been made from time to time and with partial success to produce an amicable understanding between city and county in regard to the better adjustment of their streets, still endures, and if the extension of the Washington avenues into the suburbs through the numerous village subdivisions is now to be effected, it can only be by the condemnation of numerous small private holdings and the payment of considerable sums in damages to the dispossessed owners. That this must and will be done to a certain extent does not admit of doubt, but the fact indicates the necessity, in the case of other regions as yet undeveloped, of more sagacious administrative prevision than has heretofore been exhibited, and the absence of which in the past will involve a large expense in the immediate future.

But it is not alone the multiplicity of small holdings and the lack of conformity of suburban with urban streets that oppose the universal rectilinear prolongation of the city avenues. This at the worst is a matter of expense only. Topographical considerations likewise interpose objection. The differences of level and contour in much

of the region lying beyond the boundary are too formidable to be overlooked or disregarded. In particular is this the case with the hill north of the city and westward from Eleventh or Twelfth street to Rock Creek, and the difficulties of this character are still more greatly magnified when the question arises of effecting convenient and practicable communication across the deep and in places precipitous Rock Creek Valley.

The accompanying map, carefully prepared from the photolithographed sheets of the topographical survey of the District, and exhibiting the proposed extension and delineation of streets and avenues, is the expression of the judgment of the Commissioners as to the best and most judicious method of projecting the public ways of this important area. The map shows—

1st. The position and direction of existing urban streets, shaded in black ;

2d. The existing roads and streets beyond Boundary, in yellow ;

3d. The main contour lines, in blue ; and,

4th. The projected streets, etc., shaded in red.

The waving lines covering a street indicate its proposed abandonment, and the green circles are made at important intersections.

Upon examination it will be seen at once that the 150-foot contour incloses nearly the entire region, and that the greater portion is approximately level between the 150 and 200 feet contours, the maximum elevation of 230 feet being reached in the northeast corner, near the Soldiers' Home.

The projection of the streets can therefore approximately, though not absolutely, follow the rigid system of the city proper, departures therefrom being in some cases forced by the topography and in other cases by a judicious effort to reduce cost by giving due consideration to well-established existing lines of travel and valuable improvements.

The result is in effect a compromise, by which on the one hand a substantial adherence to rectangularity and parallelism is secured, and on the other the least violence is done to existing routes and constructions, conserving, it is believed, to the greatest extent practicable both public and private interests.

The principal features of the plan are—

1st. The northward extension of Sixteenth street, hereafter to be called Meridian avenue, with its full width of 160 feet. This is the only north and south avenue the city possesses, and it can be continued on the same line and parallel with the general course of Rock Creek to the extreme northern angle of the District. The present grade of the avenue just north of Boundary street, viz, 10 feet in the hundred, will be reduced to $5\frac{1}{2}$ feet and made practicable to travel, and its existing westward deflection beyond Meade Circle will be abandoned.

2d. The extension of New Jersey avenue, 120 feet wide, from Boundary street to Fourteenth street. A deflection is made at Boundary, because the direct extension would destroy the Freedmen's Hospital, cut through the public square south of Howard University, and presently merge into Seventh street road at an acute angle, without possibility of farther judicious prolongation. On the other hand, the deflection avoids the constructions above noted, follows a natural line of drainage upward to the 150-foot contour, reaches Fourteenth street at its present deflection westwardly, and intersects Meridian avenue at Piney Branch.

3d. A new avenue, to be called California avenue, is projected from Massachusetts avenue, extended northeastwardly through the entire area. This avenue intersects all the north and south streets, and will form a superb approach to the Soldiers' Home. It intersects New Jersey avenue nearly at right angles, where Columbia avenue and Twelfth street

also intersect, and forms a prominent circle, to be named Grant. California avenue is so designated for the reason that, while the Eastern, Western, and Southern States are well represented, the Pacific coast has not as yet been recognized. The deflection of California avenue at its intersection with Columbia road is forced by the close proximity of the 100 and 150 feet contours, and consequent deep cutting and steep grades between Twenty-first street and Massachusetts avenue extended, and by the necessity for conforming with the topography in the vicinity of Rock Creek.

Other points are as follows:

Massachusetts avenue has already been extended to Rock Creek, with a circle, called Logan, at the deflection due to Rock Creek. The Columbia road is widened and converted into an avenue 100 feet in width, intersecting Meridian avenue at Meade Circle, and reaching the east and west street which traverses Grant Circle.

It is not practicable to prolong Connecticut avenue. It would cut deep into the hill confronting it, traverse a comparatively narrow plateau, and then plunge into Rock Creek Valley, unless a costly elevated bridge were constructed across the valley at its widest part. This may be done at some time in the future, to reach Woodley lane, at the high elevation west of Rock Creek, but can not now be considered.

New Hampshire avenue could only be extended up a steep grade, or at the cost of heavy diagonal cutting. Its intersection with Meridian avenue is marked by Hancock Circle.

Vermont avenue is readily prolonged to Seventh street, but has no future beyond that point. Its intersection with New Jersey avenue and Eighth street creates McClellan Circle.

Rhode Island avenue naturally continues to Lincoln avenue, and possibly still farther. It intersects New Jersey avenue at Humphreys Circle and North Capitol street at Sedgwick Circle. In running out the north and south streets their city width is generally retained, but it was needful to observe two points:

1st. The topography limited the number of the streets which it was judicious to extend, and in some cases controlled the direction.

2d. The present location of Seventh and Fourteenth street roads can not well be changed. They have regulated to a large extent the neighboring subdivisions, and to rectify their alignment would be very costly and troublesome. Second, Third, Linden, Sixth, and Ninth streets, therefore, are drawn parallel to Seventh, and the subdivision north of the new reservoir is corrected to correspond. Tenth street would naturally take the place of Sherman street, lying between Ninth and Tenth streets, but to extend Tenth street would destroy the Garfield Hospital; and, furthermore, Sherman street occupies a line of natural drainage, which must hereafter be the route of a public sewer. Twelfth and Thirteenth streets are naturally prolonged.

Fourteenth street is widened and partially straightened, but its position is not changed, for the same reasons as in the case of Seventh, and Fifteenth street is prolonged up a natural ravine and continued to Mount Pleasant. Seventeenth street can only be extended by a heavy cut similar to Meridian avenue, which is unnecessary. Beyond Columbia road it is continued again to and through Mount Pleasant, and below Columbia road its place is approximately taken by what is now called Central avenue (a name without significance), which merges into Prospect street.

Champlain street is retained to California avenue and abandoned beyond. Eighteenth street has already been extended nearly to Colum-

bia road, and is prolonged to the east and west street through Meade Circle. Nineteenth street remains as now, and merges into Woodley lane.

First street and North Capitol street are extended directly north to the Soldiers' Home. The former passes the southeast angle of the reservoir, and the latter, when cleared of the obstruction of the Baltimore and Ohio Railroad at D street, will constitute a fine approach to the Soldiers' Home direct from the Capitol.

The east and west streets, with widths of 80 and 90 feet, gave even more trouble than the north and south projections. The owners of the property had laid these down in their several subdivisions pretty much to suit themselves or some fancied advantage, and without reference to any general plan, since none had been established. It will be observed upon examining the map that rectification has been made of alignments and prolongations, so far as is practicable, by widening and straightening. It may be observed that absence of exact parallelism is much more obvious upon the map than upon the ground. Numerous minor problems had to be solved and discrepancies reconciled, which the map will sufficiently indicate.

Where streets were not built up no hesitation was felt in changing or obliterating them. Where considerable improvements had been made, care was taken to sacrifice no more of their value than was needful or reasonable. When totally incompatible they are omitted altogether.

The streets of Mount Pleasant in the northwest corner are compatible with each other, in fair accordance with the topography of the site, considerably built upon, straight, and improved at the expense of the owners, and although not running upon east and west lines, are widened and retained.

Le Droit Park, however, between First and Seventh streets, is a hopeless case. Endeavor was made to effect some approach to reconciliation without success. The park is contiguous with the city, important thoroughfares must traverse it, and the immediately adjacent properties to the east, north, and west are greatly in need of improvement. The streets go nowhere and connect with nothing. They are narrow and not even straight within the limits of the park itself. The designer of its plan seems not to have had a single well-considered idea, and if still in existence should not again be permitted to experiment with matters of importance. It was finally concluded that nothing better could be done than to project the lettered streets of the city through the park on their own lines, since no adjustment even in a single case seemed practicable. If, as has been subtly contended, the configuration and architecture of a city have a moral influence upon its residents, the rectification of the irreclaimable obliquity of the Le Droit Park streets is manifestly desirable for more than physical reasons.

The proper designation of the east and west streets beyond the Boundary was carefully considered. The lettered system within the city is well established and found to be quite satisfactory, but the limit of the alphabet has nearly been reached. It has been proposed to begin again with double A, double B, etc., but the system is anything but euphonious, and would probably occasion numberless annoying errors. It is preferable to carry out the idea, with a modification that frees it from embarrassment, by using names having the proper initial letter, and this system is capable of indefinite variation and extension.

As W street is now the last lettered street within the Boundary, it is proposed to omit the remaining letters, X, Y, Z, and to begin a new

lettered series, selecting names from the list of Presidents, signers of the Declaration of Independence, and other distinguished Americans.

The east and west street which traverses McClellan Circle at the intersection of Eighth street and New Jersey and Vermont avenues, and merges into Boundary street at Tenth, would be called Adams street. The next, now called Clifton, would be Buchanan. The third, now enjoying the four names, Irving, Roanoke, Euclid, and Erie, will be more simply designated Clay street. Yale and Bismarck become Douglas, Princeton becomes Everett, and Harvard, Fillmore, intersecting Meridian avenue at Meade Circle. Steuben and Columbia become Grant street, traversing the circle of the same name. Kenesaw and Wallach unite as Harrison street; Kenyon, Marshall, and Grant reduce to Jackson; Farragut, Farr, and Linnæan Hill road become King street; Sheridan is Lincoln; Mount Pleasant and Howard avenues are Madison street; Nelson and Otis street follow; and Pierce street takes the place of Spring road and Rock Creek Church road, at the border of the present map.

It seems desirable, following the city plan, to retain the designation "streets" for the rectangular system, and reserve the name "avenue" for the broader diagonal highways.

Near Rock Creek, where the topography becomes rugged, the east and west streets either terminate at practicable points or descend into the valley and join the Rock Creek Park drive, which leaves Massachusetts avenue on the south side beyond Twenty-second street, and thence follows the creek valley northward to the limit of the District, maintaining a suitable elevation above the creek surface, and crossing it when needful to avoid costly construction.

A branch also leaves Massachusetts avenue from the north side near Rock Creek.

This drive-way was favorably reported upon to Congress last spring, and when constructed will constitute the most attractive and enjoyable of its kind in the country. The land is nearly valueless, and the right of way could no doubt be secured cheaply, and in most cases without cost.

If additional ground for park space is desired, the necessary land can be secured by purchase and condemnation, but the narrowness of the valley and the steepness of its banks do not favor the acquisition of broad areas for park purposes.

Another drive-way is projected around the new reservoir, where it is understood that ample space has already been included in the purchase of the reservoir site.

In projecting the streets and avenues as shown upon the map, the Commissioners do not desire to be understood as indicating an absolutely rigid and final judgment upon a subject of so much importance, and with regard to which the exact detailed information is not complete.

The map does represent the views of the Commissioners as to the proper locations, having due regard for uniformity modified by topography and existing practical conditions; but the time and means at the disposal of the Commissioners have not made possible that accurate ascertainment of details needful to the last conclusions, and it may be that were the project approved by Congress and the work inaugurated small changes might prove desirable in some cases; but the plan as a whole is based upon careful study, and can be relied upon as in no material respect inadequate or incomplete.

Should the work be authorized, the Commissioners should be left to exercise due discretion in requiring conformity with the general plan,

with power to effect minor modifications as the work progressed. Nor is it believed that the cost would be great. It has been impossible to make elaborate calculations, especially as the nature of the ground is not in all cases known, but the matter has been so far gone over as to warrant the statement that the grading, filling, clearing of obstructions, constructions of the necessary culverts, and the graveling of the road surfaces, which is all that is necessary at the present time, would cost, at an average price per cubic yard of 35 cents, considerably less than \$750,000 for the construction of the 48½ miles of streets and avenues projected upon the map. Nor need all of this be provided for at this time, nor necessarily at public cost. The owners of property adjacent to the lines of streets would no doubt be glad to aid in their construction by combining the work with the preparation of building sites and the proper grading of their premises. The work could proceed gradually, taking advantage of favorable opportunities for opening streets, and securing aid from the owners, and with moderate annual appropriations the work could be authorized and proceed continuously. The proceeds of a loan or a sale of bonds, however, would enable the Commissioners to proceed with much greater expedition and attain valuable results the sooner, with increased taxable values and development of public interests; but whatever action may be taken by Congress, it is extremely important that a general plan be adopted at this time, and the requirement established that all future constructions and subdivisions shall be in conformity therewith.

The result of deferring action upon this matter has been too detrimental in the past and will be too costly in the future to justify further postponement. The Le Droit Park lesson should not need repetition. With regard to the rearrangement of street lines in this and similar instances, the Commissioners believe that while an immediate change is desirable, it is not necessarily urgent. New Jersey and Rhode Island avenues should be opened at once, and the opening of Sixth and Linden streets is advantageous, but the cutting through of the east and west streets can be deferred, with the understanding that no new constructions in the line of the projected streets should be permitted. The problem might stand for some time awaiting final solution, but its difficulties ought not meanwhile to be increased. For these and other reasons, including lack of definite determination of a large mass of detailed valuations, it has not been possible to make any estimate for land damages incurred by the proposed extension until Congress shall have positively indicated its intentions and made provision for the necessary expense of the investigation.

Where properties are unimproved or but partly improved there is the best reason to believe, from experience in similar cases, that owners will dedicate the required ground, or, in case of refusal, that a jury of condemnation would assess nominal damages only, or none at all. Where a holding is entirely absorbed, or a large proportion taken, the lands and improvements would of necessity be paid for, but in many of these cases, for example near McClellan Circle, at the intersection of Vermont and New Jersey avenues, the District would gain more than it would lose by buying out the numerous small and disadvantageous premises which could not otherwise be adequately improved.

The Commissioners recommend that if upon consideration the proposed plan of extension shall meet the approval of Congress the map be ordered lithographed for public use.

An important consideration, apart from the delineation and construction of the streets and avenues of this region, which is now suburban

and rural, but in the immediate future will be absorbed by the city, must be briefly referred to.

The area is occupied by a resident population of some thousands, which is rapidly increasing, and the vital necessity of the adoption and construction of systems of water supply and sewerage, hitherto neglected, should no longer be overlooked. Of the two, the problem of water supply is much the simpler, since water can be distributed under pressure, without reference to grade or differences of elevation. A sewer system, dependent upon gravity for its power and efficiency, is more complex, and requires the most careful adjustment to topographical features. But in both cases the establishment and inauguration of the system is essential, and should proceed *pari passu* with the development of highways and the occupation of the ground. As has been stated, the general level lies between the 150 and 200 feet contours, with an average of, say, 175 feet. The surface level of the new reservoir, when completed, will be about 145 feet, so that the water level in the basin will be 30 feet below that of the ground. In fact, the reservoir will not furnish adequate pressures to considerable areas even within Boundary street. The 100-foot contour traverses the upper part of the city, and along this line the water will, even at rest, reach no higher than 45 feet, or, say, the third story, and with the regular draft upon the mains will frequently fail at the second floor of dwellings. The sole remedy is pumping and direct supply, and in considering the needs of the region north of the Boundary provision also should be made for that portion of the city above referred to.

It is proposed to establish a pumping station near the northwestern angle of the reservoir, drawing directly from the basin, with a lift of 6 or 8 feet, and forcing the water through a 30 inch main along Grant street to Grant Circle. At this point the pipe will become vertical to a height of, say, 80 feet above the ground, or a total elevation of 250 feet above city datum.

The main will overflow into an enveloping cylinder 15 or 20 feet in diameter, with a fall to partially aerate the water, which will thence be distributed by suitable supply mains.

The two cylinders should be inclosed by an appropriate architectural structure, with stairways and an elevated platform for observation, and can be made an attractive and ornamental feature, with a commanding elevation.

The sewer system must of necessity conform with the topography, and in general follow natural lines of drainage. The extended New Jersey avenue will furnish an important route, and others suggest themselves, but the details of this system must be carefully worked out and need not now be more than suggested.

In their estimates for the fiscal year 1887-'88 the Commissioners included a small item of \$25,000 for "suburban sewerage," as a beginning, and it is hoped that Congress will appreciate the importance of the proposed work and appropriate means for its investigation and commencement.

Very respectfully,

The PRESIDENT OF THE SENATE.

W. B. WEBB,
President.

C.

ROCK CREEK PARK.

JUNE 24, 1886.

SIR: Pursuant to the letter of the 4th instant of the clerk of the Senate Committee for the District of Columbia, referring to the Commissioners for their consideration Senate bill No. 2584, which authorizes the appropriation of lands in the valley of Rock Creek for the purposes of a public park, the Commissioners beg to state that they have gathered such information as was available in relation to the quantity and value of the land involved, and forward herewith a general plat and schedule exhibiting this information.

The plat as drawn shows a park 1,000 feet in width from Lyon's Mills, on Rock Creek, to the boundary of the District. The quantity of land is 919 acres and its valuation upon the assessor's books, with the improvements thereon, is \$109,320. Should Congress decide to proceed further in this matter, important modifications would be made in the plan by a careful consideration of the topography of the several portions of the proposed park. No uniform width need be adhered to. Where the banks are steep, only such acreage would be required as would suffice to control the crest and slopes and provide for the construction of suitable drives. Where the elevations lie more remote from the banks of the stream a greater width would be requisite. It is probable on the whole that a considerably less acreage than that given would be necessary, while on the other hand the assessments for condemnation might, in some cases, considerably exceed the valuations as derived from the books of the District assessor. It is believed, however, that the gross amount required for the purpose would be largely reduced by the willingness on the part of owners to dedicate sufficient of their holdings to answer the requirements at least of the needful drives, the construction and opening of which would immediately and greatly enhance the value of all adjacent lands. The project of the proposed park is one that meets the unqualified and earnest approval of the Commissioners. In their judgment it is hardly possible to formulate another that would be in every respect so advantageous and advisable. The valley of Rock Creek, while nearly worthless for occupation or settlement, is extremely picturesque and possessed of numerous and varied natural advantages, and its conversion to public uses will secure to the capital a park and drive over 7 miles in length of unrivaled beauty.

The Commissioners believe that at some time in the future favorable action in this matter will certainly be had and that advantage should be taken of the present wild and unimproved condition of the valley to secure it.

The bill appears to meet the requirements of the case and the Commissioners have no amendments thereto to suggest at this time.

Very respectfully,

W. B. WEBB,
President.

Hon. JOHN J. INGALLS,
Chairman Committee for District of Columbia, United States Senate.

D.

**REPORT OF THE COMMISSIONERS UPON STEAM AND STREET RAIL-
ROADS.**

OFFICE OF THE COMMISSIONERS
OF THE DISTRICT OF COLUMBIA,
Washington, November 15, 1887.

SIR: In response to your letter of March 8, 1887, requesting the views of the Commissioners of the District upon certain matters relating to steam and street railway transportation in the District, the Commissioners beg to state that they have given the subject careful consideration, and that, so far as they have been able to prepare them with means available, the replies to the several interrogatories contained in your letter will be found in this communication and in the appendices thereto.

The questions touching the legal status of the railway holdings and occupancy of streets were referred to the attorney for the District, whose report clearly shows the involved condition of the matter, and will be found approximately exhaustive of the subject of existing railway legislation.

Captain Griffin's report contains valuable and interesting facts as to the form of rail and the general subject of street-car track construction, with such additional data as were procurable relative to cost of laying and maintenance.

The reports of the assessor and special assessment division cover the information desired as to the methods of railway taxation, the amounts paid, and those still owing. The report of the attorney likewise contains statements under this head.

The remaining questions relating to the physical and business aspects of the matter involve consideration of the existing transportation lines, and the facilities and deficiencies thereof; the means of increasing the former, amending the latter, and effecting a more equitable adjustment of corporation and public interests to the common advantage; the topography of the city and District, the natural tendencies of trade and population towards the selection of certain localities for development, the special needs of the city with reference to terminal facilities for passenger and freight traffic, and the needs of the General Government in the matter of convenient access to and from certain localities.

These questions are answered by the Commissioners in accordance with their best judgment and careful estimation of the important, complex, and, in part, conflicting interests involved.

In seeking to reach a conclusion which should on the whole be considered as a satisfactory solution, the Commissioners have been guided by a recognition of the following facts:

Not only does the national capital derive a large part of its population from every State of the Union, but every citizen of the United States is a tax-payer therein, and has a direct personal interest in the

local administration. It occupies the center of a web whence lines of sympathy and interest radiate to the farthest confines of the country, so that what is done here is matter of general observation and example, and it is expected that the most enlightened judgment and the most advanced acquirements of civilization will be displayed in the conduct of its affairs.

The establishment and maintenance of speedy and convenient lines of transportation, both internal and external, are an indispensable concomitant of modern municipal life, and especially needful in the District of Columbia, where the great and expanding business transactions of the General Government are centered, which has a rapidly increasing resident population of about 250,000, an immense floating population, drawn hither in pursuit of business or pleasure in greater numbers year by year, and which is to-day the nucleus of what is destined to be the most attractive and well-ordered city in the world, with a thronging population in the enjoyment of more favorable conditions of existence than are elsewhere procurable.

It is proper and needful, therefore, in considering so important a matter as that of transportation, involving large expenditures and the enjoyment of valuable franchises, to take into account the prospective development of the city and its inevitable future requirements, and to exercise due prevision that what may now be done or permitted shall not impair valuable public interests awaiting development.

The existing means of rail transportation of both kinds exhibit many objectionable features and serious defects. Prominent among these, in the case of the steam railways, the occupancy of numerous streets and a multiplication of grade crossings, alike dangerous to life and limb, destructive of property interests of great value, inimical to private rights, and opposed to public policy as in conflict with the rights and necessities of a modern community. Originally established when Washington was an unkempt village of inconsiderable extent and population and of no importance save as the seat of Government, the railroads, more mindful apparently of their corporate interests than of their true character and functions as public servants, have not only failed to adapt themselves to the growth and enlarging interests of the community, but have in some respects put themselves in direct antagonism thereto by an unlawful expansion of their holdings and the occupancy of public space far beyond their chartered rights and privileges.

The Baltimore and Ohio, occupying the region north and east of the Capitol, crosses Boundary street at two points about 3,800 feet apart, one at the intersection with New York avenue between First and Second streets east, the other between Ninth and Tenth streets east, incloses no less than thirty squares of the city between its two branches, which it unites on Delaware avenue between F and G streets, and thence penetrates with the combined tracks to within two squares of the Capitol, and maintains there an antiquated and inadequate passenger station and freight depot.

The lines within boundary occupy longitudinally a portion of New York avenue, nearly all of First street northeast, and a considerable portion of I street and Delaware avenue and intercept once or more, and at grade or worse, all the streets between C and P streets north and New Jersey avenue and Tenth street east, including such important avenues as North Capitol street and Massachusetts avenue.

In addition, the road has constructed a track crossing Delaware avenue and I street between First and Second for the purpose of transferring from one branch to the other through freight and passenger

trains which have no business in Washington at all, add only to the volume of obstructive traffic through the city, and make of it a mere way station without corresponding benefit. This objectionable connection or "Y" is also used to make up and reverse trains, because of the absence of the proper means of doing so.

The effect of all this is to partially isolate the inclosed thirty squares, to cut off the northeast from its due and natural communication with the northwest, and practically prohibit that development and improvement of the northeast for the lack of which it suffers.

It is proper here to state some facts in this connection. A large portion of the resident population of Washington consists of people of moderate means employed in the Government Departments and otherwise, to whom the possession of agreeable homes at a moderate cost and within reasonable distance of their places of business is a necessity. The great advance in values throughout a large portion of the northwest is yearly making such possessions more difficult to procure in that region, and as topographical and other controlling considerations, which it is not needful now to enumerate, discourage the building up of the greater part of South Washington for the purpose, it is the area east and north of the Capitol to which it is necessary to look for the needful accommodation. To this the Baltimore and Ohio lines as now maintained are an insuperable obstacle.

People will put themselves to much trouble, inconvenience, and expense to avoid the peril to themselves and their families of crossing a steam-railway track in leaving or reaching their homes, and they will shun the noise and inconvenience attendant upon residence near the line of a great railway, especially if the defects in its construction and management are such as to involve the constant shifting and making up of trains at all hours of the day and night.

For all these reasons extensive and desirable areas in the northeast are neglected and comparatively valueless, incapable of improvement, and making no due return either to the owners or the District treasury.

This brief statement of the facts in the case makes an exhibit of local conditions which could not be tolerated in any portion of a modern community where mercantile and business considerations did not predominate to such an extent as to justify the retention of the disadvantages for the sake of the profits, and it is needless to say that in the case of North and East Washington these considerations are entirely inadequate to enable a balance to be struck in favor of the present railway arrangements.

The lines of the Baltimore and Potomac reach the city from the eastward, bridging the Eastern Branch, following the shore past Pennsylvania avenue southeast, thence westward near M street south, entering tunnel under Virginia avenue from Eleventh to Seventh streets east, emerging upon K, and thence via K street, Canal street, and Virginia and Maryland avenues to Long Bridge. At Sixth street the passenger line swings northward, the station occupying the northerly part of the reservation known as Armory Square, and severs the public park which extends from the Capitol to West Seventeenth street into two parts, between which communication is maintained only by means of an elevated bridge crossing the railroad.

This route involves the longitudinal occupation of K street south, Canal street, Virginia avenue, and Sixth street west, and Maryland avenue southwest, and grade crossings of streets approximately from Sixth street east to Fourteenth street west, and from K street south to B street north.

It may be assumed at once that if railway communication through Washington is to be maintained at all, the continuation of the transit through South Washington must be authorized upon such lines and by such methods of construction as shall be found most advantageous to the public interest.

The relatively low and uniform elevation of South Washington, its character as the recipient to a considerable extent of the accumulation of sewage from the higher levels, and in particular its proximity to the Washington and Navy-Yard channels, which constitute the harbor frontage, unmistakably indicate that it must as a rule be devoted to such industrial purposes as may be found needful and expedient, and its prosperity can only enhance with the development of trade and traffic.

For these reasons the disadvantages to South Washington, due to the presence of the Baltimore and Potomac, so far from being comparable with the paralysis imposed upon the northeast by the Baltimore and Ohio, are outweighed by considerations not only of general but of local advantages; and if in individual cases damage has been wrought and personal loss and inconvenience imposed, it is simply the result, in great part, of natural laws and of the necessities of traffic and commerce, in the presence of which individual and separate interests must yield to the public need and welfare. It does not follow, however, that, because the services of a great private corporation are necessary, due regulation of that service and the restriction of privileges to such as are needful thereto and in conformity with the public requirements should be omitted. It is but just to the Baltimore and Potomac to say that, in the construction of its main lines and stations, it is believed to have restricted itself to its lawfully acquired privileges, and that its service partakes of that minuteness of care and attention to the comfort and safety of passengers which is so marked a feature in the railway system of which it forms a portion; but in the occupation of public space to which it is not entitled, in the crossing of streets not authorized by law, in the expansion and multiplication of side-tracks and switches, and in particular in the unlawful use and occupation of the public streets as freight and storage yards, to the obstruction of public travel and the great detriment and annoyance of private rights, the road has exhibited that tendency towards the protection of its own interests in disregard of those of others and the violation of public rights which large business corporations of this character are sure to display in the absence of watchfulness, and needful restraining influences.

The unnecessary burdens imposed upon the public by both these wealthy corporations have long been the cause of earnest protest and have led to frequent and urgent appeals to Congress for redress on the part of the District government and others. From time to time plans have been prepared and submitted for the better adjustment of the railway systems to the public need, but as yet no step of importance has been taken, and the interests of the District continue to suffer in yearly increasing measure. It is believed that Congress is now prepared to deem the time ripe for action, and to make such final order upon the subject as a whole as shall best subserve the public interests, and allay, so far as may be, all legitimate grievances.

The Commissioners have carefully prepared their views as to the proper location of the railway lines for the consideration of the Senate committee, and have indicated them upon the map accompanying this report. It is understood that the Baltimore and Potomac Railroad is content with its present advantages and has expressed no desire for any alterations. The Baltimore and Ohio managers, on the other hand, are

aware of the disadvantages of their lines both to public interests and their own business, and are prepared to make radical changes if compensating facilities can be obtained. An important point to them is to secure a southern connection and equal passenger and freight accommodations with the other lines of road, and they aver, with manifest sincerity, their willingness to sacrifice much of their present holdings and to expend large sums in the necessary construction for the accomplishment of those purposes. How far recent changes in the financial affairs and management of the company may affect this matter it is inexpedient to discuss, since in any case, probably, the future only can reveal this, and in the end Congress is the judge, and will make its decisions independently of either rivalries or affiliations. The proposition recently made by the accomplished chief engineer of the Baltimore and Ohio is the construction of a line from the Metropolitan Branch just outside the Boundary down to Second street east, entering tunnel at Second and E streets northeast and emerging therefrom at E street south; thence swinging westwardly through reservation 17, to join the Baltimore and Potomac on Virginia avenue, and proceed to such station as should be established for the joint use of the two roads, with the privilege of continuing across Long Bridge. The other features of this project are the retention of the present line of the Washington Branch between Boundary and Second streets, or the alternative connection of the two branches by a line just outside Boundary.

The Commissioners are in accord with this proposition so far as relates to the establishment of a union station and the securing of a southern connection and equal facilities, but dissent from the details, judging it inexpedient to construct a trunk line of railway in proximity to the Capitol and the Library now building, and objecting strongly to the retention of any portion of the Washington Branch or the construction of a connecting line near Boundary, as well as to the numerous grade crossings on north Second street from E to O and Boundary.

They believe, on the contrary, that nothing less than the abandonment of the present Baltimore and Ohio lines within the Boundary and partly exterior thereto will suffice to meet the requirements of the case, and that as a broad proposition the railway business within the city limits should be mainly confined to South Washington and the vicinity of the harbor front.

For this purpose they would prefer to take up all the tracks of the Baltimore and Ohio within Boundary, to connect the two branches by a route passing northward of Ivy City and the National Fair Grounds and thereafter to abandon also that portion of the Metropolitan Branch lying southward of the point of junction; to deflect the Washington Branch at a point outside Boundary down Eleventh street east, entering tunnel between F and G streets north, and so continuing southward, swinging westwardly so as to emerge on K street south, side by side with the Baltimore and Potomac, and thence continuing in conjunction with that road to Long Bridge by such route as shall be determined.

The Eleventh-street line has several advantageous features. It leaves the Washington Branch at a favorable point and follows a natural depression until the sharp rise north of F street is reached and the tunnel begins. The intervening space on Eleventh street is almost unimproved and the line crosses but five streets, viz, G, H, I, K, and Boundary, approximately at grade. At the south and west end of the tunnel no new grade crossings are needful.

Ample opportunity is offered for the construction of freight and passenger stations in the immediate vicinity of the line just outside of

Boundary upon the grounds lying eastward of the Columbia Institution for the Deaf and Dumb, and the removal of the present Baltimore and Ohio tracks from Delaware avenue, First, and I streets will admit of the laying out of an extension of Louisiana avenue from the intersection of North Capital street and Massachusetts avenue to L and Boundary, directly to the north Baltimore and Ohio station.

A glance at the map of the city will show that the parallelogram bounded by New York, Massachusetts, and Maryland avenues and Boundary street is less subdivided by diagonal avenues than any other, and the extension of Louisiana avenue from North Capitol street to Boundary would separate it advantageously into two equal parts and open a direct route northeastwardly. Should it be deemed expedient, a local underground station could be constructed also at the west end of Lincoln Square, where the tunnel passes under Eleventh street.

It remains to consider the questions as to the proposed union passenger station and the route and other conditions by which the conjoined roads shall traverse South Washington and reach Long Bridge.

The Commissioners entertain no doubts as to the advantages of a suitably situated and constructed union station where the general passenger traffic of the District can be accommodated.

The selection of the site will naturally depend largely upon the route adopted for the roads, but in any case should have reference to its general convenience of access, especially in connection with the main Federal buildings and the local centers of business and population.

As to the route, the Commissioners, after careful consideration, are of opinion that the present line of the Baltimore and Potomac, with certain needful modifications, will best answer the requirements and should be adopted, not merely because the tracks are now there and business interests have to a considerable extent adapted themselves thereto, but because the width and continuity of Canal street and Virginia and Maryland avenues constitute them, as it were, a natural line of communication which can be made less disadvantageous on the whole than any other.

It is true that this involves the retention of several grade crossings which the main object of selecting a different route would be to avoid, but while grade crossings are inadmissible in populous and residence portions of a city, they are far less objectionable in sparsely-inhabited regions devoted solely to industrial and business uses, and the practical sacrifices needful to be rid of them may in some cases overbalance the advantage.

In the present instance the only plausible alternative of retaining the present line is the construction of a road westward on K and Water streets, to be partly elevated and partly at or about grade. This the Commissioners can not regard as preferable, because passenger communication would be removed thereby to an inconveniently distant point, the expense of the construction would be heavy, and the relative advantages inconsiderable.

It is not proposed, however, to retain all the grade crossings now made by the Baltimore and Potomac. The conformation of the surface is such that between Four-and-a-half and Thirteenth streets west the tracks can be depressed so as to admit of the intervening streets passing above them with little or no change of grade, and in fact a considerable portion of the cut itself could be converted into a girder-roofed tunnel if deemed advisable. The proposition therefore is to begin depressing the tracks at Delaware avenue, where the surface grade is 9 feet above city datum (mean high water in the Potomac), and practically

continue at that grade with a moderate variation to provide for drainage. Upon Maryland avenue the grade will gradually rise from 9 feet at Eighth street to 16 feet at Fourteenth street in order to pass upon Long Bridge.

For the purpose of regulating the occupation of the street, it is proposed to limit the width of track upon K and Canal streets to 66 feet, and upon Virginia and Maryland avenues to 50 feet. This will admit readily of four tracks and diminish the length and cost of intersecting bridges, while leaving 55 feet on each side between the building lines and the sides of the railway cut.

The interference with sewers and the provisions for the drainage of the cut are fortunately not serious. A 3-foot sewer is met at Sixth and D streets, but can be diverted at no great cost. It will be needful to build a sewer down Eighth street from C street to the river, which would in any case be a desirable construction for the better drainage of the neighborhood.

As to the union station the considerations controlling the selection of the site, if the proposed route be adopted, would clearly indicate the intersection of Virginia and Maryland avenues and Eighth and C streets as best meeting the requirements. A circle struck from the designated point with a mile radius will include all the centers of business and nearly all the great Federal offices, with the Executive Mansion and the State, War, and Navy Building lying just outside.

The vicinity is now reached by established lines of street cars, and additional facilities of access can be readily afforded if desired, and a handsome and capacious structure rising from below the street surface, with suitable architectural features and surroundings, could be so constructed and arranged as to be no detriment to the neighborhood or objectionable from any point of view.

No attempt has been made in this report to do more than indicate the considerations which it is believed should control the adjustment of the railway problem and to furnish a general outline of the plan proposed. While exact details and estimates have been deferred until it should be seen whether such are needed, it is believed that no essential consideration has been overlooked that would affect the practicability and advantages of the project. As to the cost, it may be estimated broadly that the proposed constructions for the Baltimore and Ohio will require an outlay of \$1,000,000, and that the expense of the adjustment of the tracks in South Washington will be \$500,000 more. The cost to the city of the necessary changes in sewer and water pipe arrangements, including the new Eighth-street sewer, should be covered by \$25,000.

The Commissioners have not been requested, nor does it seem expedient at this time, to discuss the conditions under which the work recommended should be done, or the relative division of expense between the parties concerned. These are matters for the consideration of Congress after conclusions shall have been reached and a definite project adopted.

With regard to freight facilities for the two roads in South Washington, the question is simple. The area bounded by South Capitol, Canal, and K streets and New Jersey avenue is already largely occupied for this purpose, and there can be little objection to extending it. The angle between Maryland avenue and the river is similar in character. The railway companies should be authorized and required to purchase or lease such areas as are needful, and notably the four squares on D street

south of the union station for the passage of through freight and general business.

To enable them to effect this without undue expense, Congress might properly grant some limited powers of condemnation by which, under the direction of the courts, the necessary property could be taken and the damages equitably assessed.

It is to be understood in this project establishing the railway lines for the service of the District that all other companies now connecting with Washington or desiring so to do are to be provided for over the same routes. With this understanding the Commissioners believe that the railway facilities afforded will meet all the general requirements of the District, but it is proper to invite attention to the comparatively isolated condition of Georgetown, which, although enjoying a considerable commerce, and possessing a valuable water front, is without direct railway communication. It is suggested that if Congress so authorize, the construction of a line from Long Bridge to the Aqueduct Bridge bordering the new channel would be advantageous both for freight and passenger accommodation.

The greater part of Washington is fairly well equipped with a street-car service, the main defects of which pertain rather to the system than the administration, but examination of the map accompanying this report indicates that there are considerable areas without adequate provision.

The northeast, for example, has but one line, viz, that running westward on H street north, from the intersection of Boundary and Fifteenth streets east. The southeast has two lines, one on Pennsylvania avenue and Eighth street east, and the other on M street south. In the northwest, above Pennsylvania avenue and west of Fourteenth street, there is but one line, that on Connecticut avenue and P street, but the vacant spaces are apparently well supplied with Herdic lines.

Outside the city the District is but scantily served, a line out Seventh street and one out Fourteenth street constituting the total.

There can be no doubt that both the northeast and southeast would be benefited by additional accommodations, especially the former.

A line out Maryland avenue from the Capitol to the intersection of the Bladensburgh and Benning's roads with Fifteenth and H streets would certainly be desirable, while there does not appear to be any objection to lines on Delaware avenue (when the Baltimore and Ohio tracks are removed) and Massachusetts avenue from New Jersey avenue to Lincoln Square.

In view of the construction of the Eastern Branch bridge on the prolongation of Pennsylvania avenue, an extension in this direction would serve a public purpose. The construction of the east Eleventh street line down to the Anacostia Bridge also suggests itself, and a service out New York avenue from Mount Vernon Square to Boundary might be advantageous.

In this matter of opening new routes, however, the Commissioners would prefer to let the demand precede the suggestion, and that the initiative be taken by those who propose to invest in the undertaking, supported by the petition of owners and residents to be benefited thereby.

So far as the county is concerned, there can be no doubt that occupation and development follow lines of transportation, and that the establishment of these promotes settlement, creates population, and enhances values. If privileges of this sort be extended, however, it will be needful to guard against injury to the use of the public roads, which

now constitute so great an attraction and source of enjoyment in the District.

To occupy these road-beds with lines of rails and street cars will greatly impair their value for freight and pleasure purposes, and a safe rule in most cases perhaps would be to require the projecting company to procure its own right of way.

In this connection it may be proper to suggest that railway franchises, involving the use of public streets, are valuable acquisitions, and in other cities requirement has been made that a certain proportion of the proceeds of the business should inure to the benefit of the public treasury.

The District does not at the present time participate in the profits of any of the transportation companies doing business in the city, and an indirect and modest endeavor to do so by charging a license fee for each car in use is resisted by the companies in the courts, as the books of the assessor show.

As to the suggestion of a change in the motive power to be used, there is little cause for hesitation.

The defects of street horse-car transportation are numerous and some of them irremediable.

The speed is of course much below the limit of advantage or safety. The car-horse droppings contribute a larger proportion to the offensive littering of the streets and the expense of cleaning them than any other one cause. The smooth and noiseless surface of the asphalt is broken by the cobbles with which the companies insist upon paving their tracks, and the quiet of the street is impaired by the clatter of hoofs. The horse himself is subjected to severe strains, and although worked no more than four hours in twenty-four, is worn out in from three to five years.

For all these reasons a change of motive power is desirable, and there is no reason to doubt from practical results that substitutes have been found which in respect both of effectiveness and economical operation are prepared to relieve the car-horse from his uncongenial and destructive employment.

Under conditions where horse-power is inadequate, such as hilly districts and upon lines where the volume of receipts warrants large expenditures for plant, the cable system has been successfully operated, although it has defects incapable of amendment; for example, the expenditure of nearly 75 per cent. of the power to move the cable alone, and the fact that a break in the cable or a failure of the driving machinery stops all traffic. Compressed air has been frequently tried, but not with ultimate success. Steam machinery is too heavy, and other motive powers have proved abortive.

Electricity is naturally looked to as the final resource, but although practically operated for some years, the financial showing under ordinary circumstances has until recently been unfavorable.

It is believed now, however, that such advances have been made in the practical use of this subtle agent as to warrant the belief that it is prepared to take the place economically of other motors for car service, and if such be the fact, there is no question as to the advantages of its adoption. There need be caution, however, in authorizing the special means.

An electrical conductor of high potential should not be allowed above the surface along the line unless in isolated districts where no harm could ensue.

There need be no practical difficulty in the use of the same track by horses, cable, or electricity, except where a third rail is used to carry a high electric current, which should not be permitted.

With reference to the proper form of rail, attention is invited to the report of Captain Griffin.

The only rail that should be permitted to be laid hereafter in the streets of Washington is some approved form of the grooved rail, with longitudinal girder, solidly embedded, and this proposition is as much in the interests of the companies' exchequer as for the safety of vehicles and the public and the protection of the streets from a barbarous infliction.

In conclusion, the Commissioners beg to assure the Senate committee of their sincere desire to do all in their power to aid the committee in its investigation, the results of which are fraught with great possibilities of good to the community, and that any further information in their possession or accessible to them will be gladly procured and furnished.

W. B. WEBB,
S. E. WHEATLEY,
WILLIAM LUDLOW,

Commissioners of the District of Columbia.

Hon. JOHN J. INGALLS,
Chairman Senate Committee District of Columbia.

REPORT OF EUGENE GRIFFIN, ASSISTANT TO THE ENGINEER COMMISSIONER, ON THE
SUBJECT OF RAILROAD LINES.

DISTRICT OF COLUMBIA, STREETS AND HIGHWAYS,
Washington, September 7, 1887.

COLONEL: I have the honor to submit the following report on the communication of the honorable J. J. Ingalls, chairman Senate Committee on the District of Columbia, asking for certain information in reference to steam railroad companies and street railways in the District of Columbia.

STEAM RAILROAD COMPANIES.

Questions 1, 2, and 3 are of a legal nature, and can best be considered by the law department.

Questions 4, 5, 6, and 7 are, I understand, now under consideration by the Engineer Commissioner.

STREET RAILWAYS.

Question 1. Whether any portion of the city or District requires additional accommodations; and if so, what?

The accompanying plat shows the street-car and herdic lines within the city limits. Additional accommodations seem to be required in the northeast section. A road on Maryland avenue from the Capitol to Boundary street would probably give all the additional accommodation required at the present time.

Question 2. After satisfying yourselves by inquiry, state what kind of rail should be used, whether uniform or otherwise; and whether there is any practical difficulty in the use of the same track by cars moved by horses and others moved by cable power.

The best form of rail is that which fulfills the following conditions:

(1) It should reduce the necessary tractive power to a minimum, at the same time confining the cars to the tracks.

(2) It should be durable.

(3) It should offer little or no obstruction to the passage of ordinary vehicles.

(4) It should be of such shape as not to accumulate or hold street refuse and filth, or to interfere in any way with the proper policing of the streets.

(5) It should be so constructed as to be easily renewed or repaired without cutting out or disturbing the street pavement.

The first condition requires that the rail should have a solid bearing throughout, to which support it should be firmly attached. This gives true grades and straight lines, which is not the case with ordinary rails. There is not a rail in this city which has been in use one or more years since the laying or relaying which has not one or more loose spikes, and which has not a vertical motion or "play" under the weight of a passing car. Rails bolted to wooden stringers will not and can not remain firm, because of the nature of the material and the conditions to which it is subjected.

The second condition requires that the rails shall be steel, proportioned in weight to the traffic which they bear.

The third condition requires that the rail shall be flush with the surface of the street pavement. This condition can not be obtained absolutely. The grooved rail is superior to all others in this respect. The side-bearing rail, such as is used on the Columbia road, is perhaps the best for ordinary vehicles traveling on the tracks where the width of tires and space between wheels correspond to the road gauge; but railway tracks are used but little as tramways in this city, the smooth pavements being preferred, and this special consideration should be given but little weight.

The fourth condition is fulfilled by the grooved or side-bearing rail better than by the other forms.

The fifth condition requires that all parts of the track below the surface shall be permanent, not subject to decay or injury, and that the rails shall be fastened to the stringers or supports by screws or other devices which are accessible from the surface.

The cost of a track consists of two distinct elements, the cost of construction and the cost of maintenance.

The first cost of a double track similar to that of the Metropolitan road in this city is estimated at about \$11,000 per mile, not including pavement outside of the rails or between the two tracks, as follows:

Rails, 38 pounds per yard, 120 tons, at \$42	\$5,040.00
Wooden stringers, 5 by 6, 52,800 feet, B. M., at \$21 per M	1,108.80
Wooden ties, 4 by 6, 22,240 feet, B. M., at \$21 per M	467.04
Nails, 10 kegs	30.00
Spikes, 30 kegs	67.50
Cobble-stones, 5,524.6 yards, at 15 cents	828.69
Laying cobble-stone pavement 5,524.6 yards, at 10 cents	552.46
Gravel	167.50
Excavating and building track	2,640.00
	10,901.99

The cost of maintenance may be approximately ascertained as follows: The average life of the timber is about eight years. The track must be renewed every eight years, which involves the purchase of stringers and ties, with the necessary nails and spikes, the removal and relaying of the cobble-stone pavement, and the rebuilding of the track.

Renewals while the road is open to traffic cost one-third more than new constructions.

On this basis each renewal costs:

Stringers	\$1,108.80
Ties	467.04
Nails and spikes (about)	63.75
Rebuilding track	3,520.00
Taking up and relaying cobble (included below)	

Total	
Or $\frac{5,159.59}{8} = \$644.95$ per year.	5,159.59

The rails will last 21 years. Each renewal costs \$5,040, or $\frac{5,040}{21} = \$240$ per year.

The cobble pavement will require relaying about every two years, or 5,524.6 square yards, at 12 cents per yard = \$662.95; $\frac{662.95}{2} = \$331.47$ per year.

Annual cost of maintenance:

Renewal of track	\$644.95
Renewal of rails	240.00
Renewal of pavement	331.47
	1,216.42

The yearly expenditures of the Washington and Georgetown Railroad Company for "repairs to tracks, including the pavements between," for the past seven years are stated to have been as follows:

1880	\$12,382.89
1881	3,784.72
1882	5,128.86
1883	15,348.11
1884	12,048.23
1885	1,410.76
1886	12,333.06
Total	64,436.63
Mean	9,205.23

This company has about 10 miles of double track. The average cost of maintenance per mile for the space between the outer rails for the past seven years has, therefore, been \$920.52, and for the 2-foot strips adjacent to the outer rails, \$640.25. The total expenditure by the company has been, therefore, \$1,560.77 per mile per annum. Granite blocks are used instead of cobble-stones in the inter-rail spaces on Pennsylvania avenue between First and Fifteenth streets. The first cost of this pavement is much greater than cobble, but the cost of maintenance is less.

The superintendent of the Metropolitan Railway estimates the annual cost of maintenance per mile of double track at \$1,299.85.

As these figures can only be regarded as approximations, it is within reasonable limits to put the cost of maintenance in this city at \$1,400 per mile of double track per year.

There are many forms of rails which fulfill in a greater or less degree the conditions before stated. On the drawing submitted herewith are shown the cross-sections of the various forms of rails now in use in this city, together with those in use in Philadelphia, New York, and certain European cities.

The "Boston" rail is now being laid by the West End Railway Company in Brookline, Mass., and is given as a specimen of the improved modern rail, rather than as the type of the Boston rails. The rail rests on a continuous bed of concrete 8 by 18 inches in dimensions, giving a solid bearing. The rails are connected by iron tie-rods at intervals of 7 feet 6 inches, and bolted to intermediate wooden ties. Eight miles of this track are now under contract. The rails are 30 feet long, and weigh from 90 to 100 pounds per yard. This is an excellent form of rail, the only objection being that in renewals it will be necessary to tear up the street pavement.

The grooved rails laid by the Metropolitan Railway Company at the intersection of Pennsylvania avenue and Ninth street are very similar to the Boston, or, speaking more correctly, the Liverpool rail.

The Broca rail, used in London and Paris, is also of the same general form.

The Kinkaid, Barker, and Dunscombe English systems have this advantage, that the stringers are of cast iron, permanently embedded in concrete, the steel rails being attached thereto by bolts and nuts or keys, as shown in the drawings. In the Kinkaid system the longitudinal support is not continuous, the rail resting on the chairs at intervals of 3 feet. Each chair is 6 inches high, 9½ inches wide, and 35 inches long at the base. Renewals of rails necessitate the removal of one or more paving blocks opposite each key. The same is true of the Barker system.

The Barker and Dunscombe systems have continuous stringers. In the latter the space around the nut is filled with concrete, which when it hardens holds the latter firmly in place. The rail can then be tightened, loosened, or entirely removed by the use of an ordinary screw-driver on the head of the bolt. The rail proposed by Captain Greene is similar in principle to the foregoing, consisting of a cast-iron stringer, embedded in concrete, and steel rail. The rail can be renewed without disturbing the pavement. The stringer weighs 130 pounds per yard, and the rail 40 pounds.

In the Kinkaid system the ordinary chairs weigh 50 pounds each, and the joint chairs 60 pounds. The rail weighs 50 pounds to the yard.

The Manchester rail (Barker system) weighs 40 pounds to the yard. The stringers weigh 136 pounds per yard. The first cost per mile of double track (including paving at 80 cents per square yard) is given by Mr. Barabant, chief engineer of public ways, Paris, at \$39.368.

The cost of the Dunscombe rail per mile of single track is given by the same authority as \$31,000. This is an expensive track, but, as M. Barabant remarks:

"If the first cost is very heavy, the maintenance is extremely easy and economical. We saw a rail taken up and relaid in a few minutes with great precision. In our judgment the principle applied at Liverpool is the true one: neglect nothing in construction, so as to reduce the cost of maintenance to nothing, and save the ordinary vehicles from the intolerable nuisance caused in much traveled streets by the presence of rails in bad order."

With the exception of the Metropolitan rail at the intersection of Ninth street and Pennsylvania avenue, the rail recently laid by the Columbia Railway is the best in the city. It is open to the objections that it involves the use of wooden ties, has not a continuous longitudinal support, and being side-bearing in form the inter-rail spaces will always hold more or less dirt and street filth and break the uniformity of street surface.

As a comparison of the cost of maintenance of the wooden and cast-iron stringer systems, the following is given as the estimated annual cost of maintenance of one mile of double track of the Manchester rail (Barker system):

Rail, 126 tons steel, at \$42 = \$5,292. Life of rail, 21 years; $5292 \div 21 = \$252$, annual cost for this item. Assuming the inter-rail pavement to be the same as before and allowing 5 cents per square yard for maintenance of concrete pavements adjacent to outer rails, we have:

Annual cost of maintenance:

Renewal of rails	\$252.00
Renewal of pavement.....	331.47
Maintenance of 2-foot strips	117.35
Total.....	<u>700.82</u>

The difference in first cost is, per mile of double track:

Washington system.....	10,901.99
Manchester	39,368.00
Difference	<u>28,466.01</u>

The difference in cost of maintenance is:

Washington system	1,400.00
Manchester system.....	700.82
Difference	<u>699.18</u>

Omitting all questions of interest on investment, tracks of these two systems which are 41 years old will have required the same outlay, and after that period the Manchester system will be far cheaper.

The paving, repaving, and repairing the 2-foot spaces adjacent to the outer rail is an important item in the cost of maintenance. The Washington and Georgetown Company, with ten miles of track, have expended \$44,817.63 in repairs to pavements, within the 2-foot spaces outside of the outer rails, in the past 7 years, as follows:

1880.....	\$11,935.09
1881.....	1,320.92
1882.....	6,753.97
1883.....	14,371.34
1884.....	7,031.55
1885.....	2,673.23
1886.....	731.53
Total.....	<u>44,817.63</u>
Average.....	<u>6,402.52</u>

Average per mile of track, \$640.25, or 27 cents per square yard of pavement.

With the T-rail and wooden stringers such repairs are needed much more frequently than would be the case with center-grooved rails, giving a smooth roadway. The T-rail should be abolished. Whenever it becomes necessary to remove such rails for any cause whatever they should be replaced by improved forms. The groove-rail is unquestionably the best and is admirably adapted for the streets of Washington, as is shown by the crossing recently laid by the Metropolitan Railway Company at Pennsylvania avenue and Ninth street. Cast-iron stringers are far preferable to the use of wood, but the question of expense may restrict the choice to some such form as the Boston rail. The new Columbia rail is a great improvement on the old forms, but is not the equal of the Boston rail. So far as the rails alone are concerned there is no practical difficulty in the use of the same track by cars drawn by horses and others moved by cable power.

So far as the interests of the public are concerned the question of paving between tracks and rails is of equal if not greater importance than the form of the rail.

The act providing a permanent form of government for the District of Columbia, approved June 11, 1878, provides as follows:

"The said railway companies, having conformed to the grades established by the Commissioners, may use such cobble-stone or Belgian blocks for paving their tracks or the space between their tracks as the Commissioners may direct.

"When street railways cross any street or avenue the pavement between the tracks of such railway shall conform to the pavement used upon such street or avenue, and

the companies owning these intersecting railroads shall pay for such pavements in the same manner and proportion as required by other railway companies under the provisions of this section."

Up to the past year the railway companies were permitted to use cobble-stones between the tracks and rails. On November 12, 1886, the Commissioners issued the following order:

"Ordered—

"That in conformity with the provisions of sec. 5 of the act of June 11, 1878, providing for a permanent form of government for the District of Columbia, the space between the tracks of street railways where there is more than one track shall be paved by the companies with block pavement. This order is to take effect in all cases where it is needful to repair or relay such inter-track spaces, be the same great or small."

This will dispose in time of the cobble-stone between the tracks, but while Belgian blocks were considered to make a good pavement in 1878 they would not be the best or the cheapest material for this purpose at the present time. The Belgian block pavement would cost about \$2.50 per square yard. (The last contract price was \$3.30 per square yard for paving Seventh street between B street south and B street north, in 1875-'76.) Granite block, to all intents and purposes an improved form of Belgian block pavement, costs \$2.48 per square yard. Asphalt block costs \$2 per square yard. The latter is therefore cheaper, as it is better in some respects, than either Belgian or granite blocks. The prices given are contract rates, and would be somewhat greater for paving between tracks.

Where wooden stringers and ties are used, requiring renewals and repairs at more or less frequent intervals, and rendering impossible the solidity of track necessary for the proper maintenance of a sheet pavement, asphalt blocks make, on the whole, the best pavement at present for the inter-track spaces. They are smooth, clean, and nearly noiseless, sufficiently durable (in that location), and can be easily removed and relaid when repairs to the track are needed.

The cobble-stone pavements in the inter-rail spaces are cheap, and have been supposed to afford better footing for the horses than the other pavements, although the claim is a doubtful one. In every other respect they are nuisances and should be replaced.

The block pavement in the inter-rail spaces of the Washington and Georgetown Railroad on Pennsylvania avenue seems to answer its purpose, and the other railways should follow this example. The first cost is the great obstacle. The cost of maintenance is less than with cobble.

Sheet pavements are perhaps objectionable in inter-rail spaces, as they may not afford secure footing for the horses in wet weather and during the winter season. With the present form of rails, wood stringers, etc., they are not satisfactory either between the tracks or the rails, as the play of the rail and the stringers causes too rapid wearing and general deterioration of the pavement. If improved forms of rails be adopted, and especially if cast-iron stringers, firmly embedded in concrete, be used, sheet pavements (asphalt or distillate) can be laid with entire security between the tracks and rails at street intersections as now required by law. The many favorable comments on the Ninth street crossing of Pennsylvania avenue are evidence of the favor with which the public would receive such an improvement. Under the conditions assumed the uncertain objection of poor footing for the horses could be neglected as the police regulations require now that no vehicle shall stop upon a street crossing, or upon the carriageway of a street intersection, and this would give the horse a block footing in starting the car.

It is respectfully submitted that it would be advantageous to recommend to Congress the passage of suitable laws to carry out these suggested improvements. As a beginning, the companies should be compelled to substitute grooved rails for the present form at street crossings, and to pave these crossings in accordance with the law above quoted. This could be done under suitable regulations, allowing the companies a reasonable time to complete the work and would not involve too great an expense. It would remove one of the most serious causes for complaint against the present system.

As additional and possibly useful information on this subject, I have the honor to submit the following:

Passengers carried by the Washington and Georgetown Railroad Company.

Year.	5-cent fares.	4½-cent fares.	3-cent fares.	Total.
1880.....	4, 943, 633	3, 386, 338	.....	8, 329, 971
1881.....	3, 741, 269	5, 063, 773	802, 353	9, 607, 395
1882.....	3, 728, 529	5, 203, 463	1, 356, 992	10, 288, 984
1883.....	3, 798, 877	5, 502, 895	1, 362, 244	10, 664, 016
1884.....	4, 010, 578	5, 958, 566	1, 546, 307	11, 515, 451
1885.....	4, 153, 944	6, 192, 324	1, 483, 235	11, 829, 503
1886.....	4, 506, 460	7, 041, 313	570, 473	12, 124, 246

Legislative history of street railways.

Company.	United States Statutes at Large.		
	Act.	Date of passage of act.	Nature.
Washington and Georgetown..	Vol. 12, p. 388.	May 17, 1862	Act of incorporation.
	Vol. 13, p. 322.	June 30, 1864	May extend road into county.
	Vol. 16, p. 196.	July 8, 1870	Expense of paving Pennsylvania avenue.
	Vol. 19, p. 92.	July 19, 1876	Do.
	Vol. 17, p. 10.	Apr. 20, 1871	Shall repair part of Pennsylvania avenue
	Vol. 17, p. 84.	May 8, 1872	Shall remove tracks from Capitol Grounds.
	Vol. 18, p. 385.	Mar. 3, 1875	Do.
	Vol. 18, p. 393.	Mar. 3, 1875	Shall remove tracks from bridge over Rock Creek.
	Vol. 18, p. 510.	Mar. 3, 1875	Extension of tracks of.
	Vol. 21, p. 513.	Mar. 3, 1881	Sale of alley in square 504 to, authorized.
Metropolitan.....	Vol. 18, p. 510.	Mar. 3, 1875	May use tracks of Anacostia and Potomac Railroad Company where routes coincide.
	Vol. 13, p. 326.	July 1, 1864	Act of incorporation.
	Vol. 13, p. 426.	Jan. 30, 1865	Time for completion extended.
	Vol. 14, p. 440.	Mar. 2, 1867	Do.
	Vol. 15, p. 339.	Mar. 3, 1869	Do.
	Vol. 13, p. 536.	Mar. 3, 1865	Location changed.
	Vol. 17, p. 84.	May 8, 1872	Remove tracks from Capitol Grounds.
	Vol. 18, p. 385.	Mar. 3, 1875	Do.
	Vol. 15, p. 85.	July 13, 1868	Connecticut Avenue and Park Railway Company.
	Vol. 13, p. 498.	Mar. 3, 1875	Act of incorporation, etc.
Capitol, North O Street and South Washington Railroad	Vol. 19, p. 56.	May 23, 1876	Extension of track authorized.
	Vol. 21, p. 414.	Mar. 3, 1881	Do.
	Vol. 22, p. 432.	Mar. 1, 1883	Do.
	Vol. 21, p. 414.	Mar. 3, 1881	Rate of charges regulated.
	Vol. 22, p. 433.	Mar. 1, 1883	May use tracks of Metropolitan road on Ninth street.
	Vol. 18, p. 328.	Feb. 18, 1875	Approval of construction and operation.
Anacostia and Potomac River Railroad Company, incorporated under general incorporation.	Vol. 19, p. 26.	Apr. 5, 1875	Extension of time for completion.
	Vol. 19, p. 27.	Apr. 5, 1876	Authorized to change termini.
	Act of May 5, 1870. Vol. 19, p. 27.	Apr. 5, 1876	Extension of road to a point near Center market.
	Vol. 18, p. 510.	Mar. 3, 1875	May use tracks of Washington and Georgetown Railroad Company where routes coincide.
	Vol. 16, p. 133.	May 24, 1870	Act of incorporation, management of, etc.
Columbia Railway Company...	Vol. 16, p. 133.	May 24, 1870	Act of incorporation, management of, etc.

Very respectfully,

EUGENE GRIFFIN,
Captain of Engineers U. S. A., and Assistant to Engineer Commissioner.

Col. WILLIAM LUDLOW, *Engineer Commissioner, D. C.*

REPORT OF THE ATTORNEY FOR THE DISTRICT, CONTAINING SEPARATE PAPERS SHOWING THE LEGISLATION OF CONGRESS UPON THE SUBJECT OF RAILROADS IN THE DISTRICT, ETC.

OFFICE OF THE ATTORNEY FOR THE DISTRICT OF COLUMBIA,
Washington, D. C., September 24, 1887.

SIR: I return you the copy of Senator Ingalls's communication, as chairman of the Senate District Committee, to you, of March 8, with my report upon such of its inquiries as seem to fall within my duties, to wit, the first, second, and third, referring to steam railroads, and the fifth, concerning the street railroads worked in the District. You will find, as parts of this report, abstracts of all the legislation of Congress, the District, and corporation of Washington, conferring rights and imposing duties upon the first class; also schedules of the streets and parts of streets which the second class

were authorized to occupy, with references to the various acts, and also all the parts of streets actually occupied by them severally, separately arranged.

These were prepared with much labor, and I trust will be useful to you and to the committee.

No call is made for the streets and parts of streets and avenues occupied by various railroads in this city and District, but a statement of the laws under which the right of occupancy is claimed, so far as the street tracks are concerned, that really seemed necessary, and I had lists prepared as stated. At once, on the receipt of the requisition, I addressed a circular to each railroad company, requesting a list of roads, streets, and avenues occupied in any way by it, with a statement of the law under which it claimed. Several replied promptly.

Some general statement of governing principles, common to all the claims, may precede a reference to each particular case.

In this District the right of the public to the use of the streets and public ways by the ordinary means of transit is paramount and exclusive. Whoever claims a special right of use claims so much belonging to the public, and must show a grant from the body having power to make it, or he fails.

The law of this matter occupies small space, is unambiguous, and free from doubt.

Congress is the sole source of authority in the premises, and it is incumbent on these private corporations to show a grant from Congress or from a body by it authorized to make such grant. A summary of its action will aid in passing upon the rights of these corporations in the premises.

Congress granted the "corporation authorities" of Washington, the mayor, aldermen, and common council limited powers in reference to the Baltimore and Ohio. (See Abstract A.) When it abolished these corporation authorities, it preserved no part of their powers, nor was there ever any other officer who could exercise this or any of their powers. In the creation of the late territorial government Congress in terms prohibited the new legislature from granting to any corporation, association, or individual any special privilege, immunity, or franchise. (Sec. 54, Revised Statutes, District of Columbia.) A general corporation law was authorized (sec. 65, *id.*), but this power was never exercised.

Congress created a board of public works, to which it gave entire control of the streets, for the purpose of keeping them in repair, and for no other purpose. That, the purpose of repairing, limits and controls the grant. A new servitude on a street is not a repair. The board had no power to impose one, and as it could not do so itself, it could not permit another.

Railroad companies organized under their corporation laws of Congress still must secure the consent of Congress to their routes. (Sec. 673, *id.*)

In June, 1872, Congress prohibited the use of streets by street railroads, except by its consent (sec. 224, *id.*), while section 222, *id.*, prohibits the use of any part of a street for any private purpose.

The grant of a special privilege falls within the scope of a large legislative power, a power that can take from the public and bestow on private individuals. The power to authorize the use of a street by a railroad was not conferred on the board of public works, nor their successors, save in a special instance. Congress, in all its dealings with railroad, telegraph, and telephone companies, has carefully retained this power. Whenever it has granted a right of such use, the grantee must nevertheless exercise that right under the supervision of the Commissioners, to the end that the public right under their exclusive charge shall suffer the least. It only remains to apply these rules to the occupying railroads.

In a general way we assume that the tracks are on authorized streets, and I shall call attention to such parts as seem to me authorized by law.

(1) *The steam railroads.*

The numerous turnouts on the tracks of these do not seem covered by the inquiry, nor have I information enabling me to deal with them, save in the most general way. Turnouts are authorized by the acts of Congress; whether a given one is lawful or not depends mainly upon its own conditions under the grant. Such, if any, as are wholly dependent upon permits by the District authorities, I should hold unauthorized.

The Baltimore and Ohio.—Abstract A presents a carefully prepared synopsis of the acts of Congress passed at a time when railroads were little known, and the text of the legislation of the corporation of Washington and District, some of which is of much importance, as will appear.

In this I find no authority whatever for the crossing of Delaware avenue and I street in the union of the branches of this road—the Y, as it is called. This bit of track is not a branch of either branch. It is merely a turning of each into the other at this point, across two streets without the assent of Congress or of any body by it

authorized to assent thereto. Were it indicted for maintaining a nuisance or obstructing these streets, it would be without any defense.

The Baltimore and Potomac.—Abstract B shows the legislation pertaining to the Baltimore and Potomac—Congressional, District, and corporation.

This company has oftener been before our courts than any other railroad corporation known to me, and its rights in some respects are very well understood.

It has long been in possession of the public space at the junction of Virginia and Maryland avenues and Eighth street without a shadow of authority higher than squatter sovereignty. The same may be said of its branch down Thirteenth street west.

The Washington and Alexandria.—Abstract C, also abstracts Ca and D, may here be referred to. Of these little need be said. At some time all have claimed the same track. Two or three companies, I don't know how many, used this track to enter the District. Their relations to each other are, for my purpose, of no moment. They may all share in the responsibility of the Baltimore and Potomac for the occupancy of the public space and the branch track named above.

Of the residue, legislated for by Congress, the Orange, Alexandria and Manassas, Abstract E; Alexandria, Loudoun and Hampshire, Abstract F; Piedmont and Potomac, Abstract G; the Washington City and Point Lookout, Abstract H; none of these are owners of tracks shown on the map, and seem to require no comment from me. I have, nevertheless, furnished the acts of Congress referring to them.

(2) Street railroads.

The Washington and Georgetown.—See Schedule A and explanation given above. It is seen that the company now leaves Fourteenth street northwest at W street, passes east on W to the middle of the square, which it crosses, to Boundary, its present actual terminus, in violation of its charter. Its occupation of W street, though by permit of a former official of the District, is illegal. It also occupies Fourteenth street with a track, the southern terminus being W street. Just why it charges a separate fare for this fraction is not so obvious.

The Metropolitan.—Schedule B shows an awful discrepancy between the streets authorized and those occupied by this company.

It is on Delaware avenue without authority of law, from B to C street north; also D street northwest to New Jersey avenue. It may well be doubted whether its track from Fourteenth street west to Seventeenth street is legal. From Seventeenth street west, including the use of that street, I regard its title to all the streets it uses as without legal foundation.

I understand it claims the use of Seventeenth street from Pennsylvania avenue north and Connecticut avenue as derived from the Connecticut Avenue and Park Railway Company, chartered by Congress July 13, 1833. (See Stats., p. 85.) [No abstract.] I am advised the company never had a legal existence. If it had, I do not think it could or did transfer any rights to the Metropolitan. Neither had power to make such transfer.

I understand the Metropolitan also derives title to P street and all west from the Union Company, incorporated by the late District legislature. (See Schedule C.) As before seen, this was totally void. (Sec. 54, Rev. Stats., D. C.) So all that part of its track connecting Ninth street with its Four-and-a-half street track seems to be without warrant of law.

I also regard the occupation by this company of Ninth street, north of M to Boundary, and Seventh street road, a sheer violation of law and the rights of the public. Its sole title is said to be derived from the Boundary and Silver Spring Company, chartered, as claimed, by the District legislature. (See Schedule D.) I am promised an accurate statement of this whole complex matter by the attorney of the company, which I will transmit when received as an exhibit.

I am not advised that there is a question of the rights of the other street railroad companies, and content myself with transmitting schedules of the streets authorized to be occupied, and the parts of the streets actually occupied by them severally, properly designated, which I trust will be received as ample, without comment.

Anacostia, Schedule E. Anacostia, in Uniontown, is not given me. Columbia, Schedules F and C. (See schedules.)

Second. In response to the second inquiry I refer to Abstract A as a full and complete answer, taken in connection with what follows in reply to the next. As now advised, I know of no express limitation of the occupancy of the Baltimore and Ohio.

Third. In reply to the third, Congress did not reserve the right to repeal or amend its legislation in favor of the Baltimore and Ohio. I have heretofore suggested that Congress compel it to vacate square 632, with the right to maintain a suit for damages. The result of such action is not now the question. I do not say unqualifiedly that Congress can directly abrogate the rights of the company on square 632. The constitutional limitation is upon the streets only.

By reference to Abstract A, it is seen that the details of the location of the company's tracks, station, etc., was by Congress referred to "the corporate authorities" of the city. It will be remembered that the first passenger station was on the avenue, near the Tiber. That subsequently it was, by written stipulation, removed to its present location on square 632. By joint resolution of May 31, 1850 (see p. 18, Abstract A), the corporation raised a joint committee to arrange with the railroad company for the removal of this depot station to a new position on square 632, with the right to use steam for thirty years from the passage of the act. To pay the city \$8,000, to be expended in the improvement of certain streets therein named.

This was the second attempted arrangement as appears by the acts of the corporation of said A. This was made effective, as appears by the order of July 5, 1850 (*id.*, p. 21). This appropriates the \$8,000 as stipulated to the streets, which it says was to be paid by the Baltimore and Ohio, under the third condition of the agreement entered into on the 15th of June, 1850, pursuant to the above-cited joint resolution. (See Appendix A, Abstract A.)

Some years ago I was employed to prosecute the company for nuisance in maintaining its depot on square 632. It was convicted, but the judgment was reversed in the general term. This agreement was then referred to, as I remember, by defendant's counsel as limiting the time of occupation of the square—an error, as seen on inspection of the instrument now just secured, Appendix A, above cited. Later the corporation extended the right to use steam in the city thirty years longer. (Abstract A, p. 25.)

I believe I have now covered all the points within the province of this office in these premises.

Very respectfully,

A. G. RIDDLE,
Attorney, D. C.

Hon. WILLIAM B. WEBB,
President Commissioners of the District of Columbia.

ABSTRACT A.—*Baltimore and Ohio Railroad.*

CONGRESSIONAL LEGISLATION.

Assent of Congress given to construction of road from Baltimore to city of Washington, to extent of jurisdiction of Congress over soil over which road may pass; conceding to it same benefits and privileges as given by act of incorporation by Maryland within the limits of State of Maryland; without consent of Congress, not lawful for company to pass through any reserve squares. (Act of May 9, 1828, 4 Stats., p. 268.)

Company authorized to extend to and within the District of Columbia a lateral railroad, such as company may construct in State of Maryland towards the District of Columbia; and in building road in said District, authorized to exercise the same powers, rights, and privileges, and subject to same restrictions, as it may exercise and is subjected to by laws of Maryland, except the right to construct any lateral road or roads in said District from the said lateral branch.

Company only given power to construct one lateral road in District, and to enter city of Washington at such place, and pass along such public street or alley to such point or terminus within the said city, as the said company shall find best calculated to promote the objects of said road, but prohibited from terminating road west of Seventh street west. One set of tracks to be completed within four (4) years of passage of act, otherwise rights and privileges granted cease and determine. (Act of March 2, 1831, 4 Stats., p. 476.)

Time extended for completion of road four (4) years from passage of act. (Act of February 26, 1834, 4 Stats., p. 672.)

Company authorized to locate and construct road within city of Washington through squares 718, 751, 776, 807, 831, 832, 856, 857, 858, 887, 888, 908, 909, in the same manner and with same rights and privileges which are granted by act of Congress of March 2, 1831, and assent of Congress given to the construction of said road through or over any of the said lots or parts of lots which are owned by the United States.

Main stem of railroad, after passing through squares or lots above enumerated, or any of them, shall not be constructed west or south of a point at the intersection of H street north with Delaware avenue, until the route from that point to the final termination of the main stem of said road shall be surveyed, and approved by the corporation of Washington, and when so approved such road to be constructed under such restrictions and conditions as may be agreed upon by company and corporation.

If route, so approved, should pass through any unimproved lots or squares, except public reservations, company authorized to construct road through same upon same terms and with like privileges prescribed for passing through squares enumerated.

Company authorized to construct branches of their road from main stem within city to such place or places, and in such number of tracks, as the corporate authority of the city of Washington shall assent to or permit, the branches not to pass through any of the public reservations.

Company empowered to acquire property adjacent to road or its branches, and to hold, use, and improve same for their benefit; and also authorized to extend and construct tracks of railway into any lot or lots so held by them, in connection with the tracks in any adjacent street or avenue, but not to use or employ any steam-engine in drawing or propelling cars, on any part of road in Washington City, without permission of corporate authorities. (Act March 3, 1835; 4 Stats., p. 757, section 4.)

Company authorized to construct and extend the Washington branch of road, according to most convenient route, through District to some point on the Potomac River opposite to or near the city of Alexandria, in Virginia, for the purpose of forming a connection with said river and the lines of railroads running south, subject to provisions of its present charter; also authorized to locate, construct, and operate the said extension hereby authorized, through such parts of the city of Washington or public reservations as the corporate authorities thereof or the President of the United States, respectively, may consent to; and also to build a bridge or bridges over the Eastern Branch of the Potomac River at some point above the navy-yard, provided it shall not obstruct navigation.

Company empowered to locate and establish depots and erect the necessary buildings thereon, and also to erect such wharves or piers into said river as may be necessary, provided the same shall not obstruct the navigation thereof.

Company subject to same conditions and restrictions in extending their road through any parts of the city of Washington as are prescribed for the Alexandria and Washington Railroad Company. This section of act suspended for two years from January 1, 1855, and if at end of that time the Alexandria and Washington Railroad Company shall not have completed said road to Alexandria and have same in good running order in pursuance of requirements of act of August 3, 1854, then Baltimore and Ohio Company to have the privilege of extending their road by either of the routes authorized by this act, provided they executed the requirements by January 1, 1859. (Act August 3, 1854, 10 Stats., p. 810.)

Company authorized to extend into and within the District of Columbia the road aforesaid, to such point or points, terminus or termini, as may be agreed upon between the said company and the corporation of Washington in respect of a road within the limits of Washington, and between the said company and the corporation of Georgetown as respects a road within the limits of Georgetown. And the said Baltimore and Ohio Railroad Company are hereby authorized to have and exercise the same powers, rights, and privileges, and shall be subject to the same restrictions in the extension and construction of the said road into and within the said District as they have, may exercise, or possess, or are subject to within the State of Maryland under and by virtue of their charter or act of incorporation from the State of Maryland, and shall be entitled to the same franchise, rights, compensation, benefits, and immunities in the use of the said road as are provided in the said charter.

All the provisions of the several acts of Congress relating to the lateral road authorized to be built into and within the District of Columbia by an act passed March 2, 1831, and entitled "An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Ohio road into and within the District of Columbia," and the supplements thereto, be, and they are hereby, declared to apply to the Baltimore and Ohio Railroad Company so far as they are severally applicable to the location, construction, and use by the said company of the road now authorized to be constructed into and within the said District.

Company shall commence the construction of said extension of said road within one year, and complete the same within three years after the passage of this act; and on failure to do so the privileges granted by this act shall be forfeited by said company. (Approved July 25, 1866, 14 Stats., p. 250.)

Company authorized to construct a lateral road from any point on its Washington Branch $1\frac{1}{2}$ miles north of Boundary street (into the county of Washington, in the District of Columbia) to intersect the Metropolitan Branch thereof at any point 1 mile north of Boundary street, in said county, in District, the whole of said branch road being outside of the city of Washington. Work shall be completed within two years after the passage of act, and line shall avoid all Government property. Points of intersection as well as said lateral branch to be approved by the engineer of public buildings and grounds.

All the provisions of the several acts of Congress relating to the lateral road authorized to be built into and within the District of Columbia by an act passed March 2, 1831, entitled "An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Ohio road into and within the District of Columbia," and the supplements thereto, shall apply, and they are hereby declared to apply, as far as they are applicable and in conformity to the provisions of this act, to the loca-

tion, construction, and use by said company of the roads authorized to be constructed by this act, which may be altered, amended, or repealed. (Act of June 19, 1874; 18 Stats., p. 84.)

Company shall have the right to use the tracks of the Washington City and Point Lookout Railroad Company, to be laid under the provisions of this act, from the intersection of the same with the Metropolitan Branch of the Baltimore and Ohio Railroad Company to the city of Georgetown, upon such reasonable terms as may be agreed upon or Congress prescribe. (Act of June 23, 1874; 18 Stats., p. 275.)

MUNICIPAL LEGISLATION.

RESOLUTION instructing the committee appointed to attend to the interests of the corporation before Congress to present a memorial to Congress on the subject of the bill pending in the House of Representatives in relation to the lateral branch of the Baltimore and Ohio Railroad.

Resolved by the board of aldermen and board of common council of the city of Washington, That the committee appointed to represent the interests of this corporation before Congress be instructed to present, without delay, a memorial to Congress, praying that the bill now pending in the House of Representatives, entitled "An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Ohio Railroad into and within the District of Columbia," may be so amended that the lateral railroad, proposed to be made from the Baltimore and Ohio Railroad to the District of Columbia, shall terminate within the city of Washington at such point as shall be agreed on between the Baltimore and Ohio Railroad Company and the corporation of the city of Washington. (Approved January 8, 1831; Twenty-eighth Council, chap. 149, p. 59.)

RESOLUTION relative to the termination of the Baltimore and Ohio Railroad within the city of Washington.

Resolved by the board of aldermen and board of common council of the city of Washington, That the committee appointed to attend to the interests of the corporation before Congress be instructed to represent to Congress that the assent of the corporate authorities of the said city to the location and construction of the proposed railroad from Baltimore to Washington, within the limits of said city, will be given only upon the conditions following, viz:

(1) That the said railroad shall enter the city of Washington at such place, pass along such street or alley (preserving the graduation thereof now established), and shall terminate at such point within the said city east of the west side of Seventh street west as shall be agreed upon by the railroad company and the corporation of Washington City.

(2) That the said corporation shall have the right to direct the rate at which the rail cars shall move after they enter the said city, and establish such other regulations in relation thereto as shall be found expedient and proper for the convenience of said city and the safety of its citizens.

(3) That this assent shall extend to and be in force for twenty-five years, and until Congress shall otherwise direct. (Approved February 22, 1831; Twenty-eighth Council, chap. 152, p. 60.)

RESOLUTION in relation to the lateral branch of the Baltimore and Ohio Railroad within the limits of the city of Washington.

Resolved by the board of aldermen and board of common council of the city of Washington, That the assent of this corporation be, and it is hereby, given to the passage of a bill, now under consideration in the Committee on the District of Columbia of the House of Representatives of the United States, entitled "A supplement to an act entitled 'An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Ohio Railroad into and within the District of Columbia:.'" *Provided,* That the following amendment (or an amendment or amendments equivalent thereto) be made therein:

To the end of the second section of said bill add: "*Provided, however,* That the main stem of said road, after passing through said squares, or any of them, shall be made and constructed through any street or streets which may be agreed upon between the corporation of said city and the said railroad company, and shall terminate in Sixth street west, between Missouri street and that part of the Washington Canal passing through the mall between Third and Sixth streets west: *And provided,* That the graduation of said main stem and the branches therefrom shall be made to conform to such levels or elevation as shall be approved by the surveyor of said city, or such engineer or engineers as shall be appointed for that purpose by the authority of the corporation of said city: *And provided, also,* That all bridges and culverts through

or under said main stem and the branches therefrom, which shall be required by the corporate authorities of said city for the free passage of streams of water and the proper drainage of said city, shall be made and constructed under the direction of said corporate authorities, and at the proper costs and expense of the railroad company aforesaid: *And provided further*, That the said railroad company shall not use or employ any steam engines in propelling or drawing the cars, wagons, and other vehicles on any part of the said road or branches therefrom within the limits of said city, except on such parts as may be agreed to by the corporate authorities thereof."

Resolved, That the mayor be requested to transmit copies of the foregoing resolution, properly attested, to the committees of both houses of Congress on the District of Columbia, respectively. (Approved February 3, 1835; Thirty-second Council, chap. 18, p. 32.)

AN ACT declaring the assent of the corporation of the city of Washington to the route adopted by the Baltimore and Ohio Railroad Company for the lateral branch of said road within the limits of said city.

Whereas, in pursuance of the provisions of an act of Congress approved March third, eighteen hundred and thirty-five, entitled "An act supplementary to an act entitled 'An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Ohio Railroad into and within the District of Columbia,'" the Baltimore and Ohio Railroad Company has caused the route of so much of the lateral branch of said road as is by the said act of Congress authorized to be extended and constructed within the city of Washington to be surveyed and marked out, and has transmitted to this corporation an official copy or plan of said survey, together with the plan of profile of said road, exhibiting the elevation or levels thereof, as approved by the surveyor of the city of Washington: Therefore,

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the assent of the corporation of the city of Washington be, and the same is hereby, given to the provisions of the act of Congress aforesaid, and to the extension and construction of the lateral branch of the Baltimore and Ohio Railroad into and within the city of Washington, according to the plans or drawings thereof transmitted by a committee of the Baltimore and Ohio Railroad Company with their letter to the mayor of this city, dated the thirty-first day of March, eighteen hundred and thirty-five: *Provided*, That all bridges or culverts through or under said lateral branch which may be now and at all times hereafter required by the corporation of this city for the convenient draining of the city shall be constructed of the materials, in the manner, and of the dimensions required by the mayor of this city for the time being, at the cost and expense of said railroad company: *And provided, also*, That the alterations necessary to be made in the grade of North Capitol street and Second street east to conform to the level of said lateral branch of said road shall be made at the expense of said company and agreeably to the directions of the mayor.

SEC. 2. *And be it enacted*, That the mayor be requested to cause the said plans to be verified by the certificate of the mayor and register, under the seal of this corporation, and deposited with the other public plans in the office of the surveyor of this city.

SEC. 3. *And be it enacted*, That the said railroad company shall be, and they are hereby, authorized to use any steam engine or engines in drawing or propelling cars, wagons, and other vehicles to any point on said lateral branch of said road to the northward and eastward of the intersection of the west side of New Jersey avenue with C street north, until otherwise directed by an act or ordinance of this corporation, and to no point to the west or south of said intersection: *Provided, however*, That nothing in this act contained shall be so construed as to prevent this corporation, at any and at all times hereafter, when the same shall be considered necessary, to limit and regulate by law the speed at which any cars, wagons, or other vehicles shall be permitted to be drawn or propelled on any part of said lateral branch of said railroad within the limits of the city of Washington. (Approved April 9, 1835; Thirty-second Council, chap. 46, p. 20.)

AN ACT for releasing the claim of the corporation of Washington against the Baltimore and Ohio Railroad Company for graduating Second street east, between K and I and I and H streets north, and for building a bridge over the railroad at the intersection of said street.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the mayor be, and he is hereby, authorized to grant a release to the Baltimore and Ohio Railroad Company from all further claim on the part of the corporation of Washington for the graduation of Second street east, required to be done for the said railroad company, for the accommodation of the streets between K and I and I and H streets north, in said Second street east, in the city of Washington; upon condition that the said railroad company shall first pay the sum of \$3,166.75, which sum shall be placed to the credit of the Fourth ward.

SEC. 2. *And be it enacted,* That for the purpose of erecting a substantial wooden bridge, of at least 25 feet in width, over the railroad where it crosses Second street east, and for improving said street from square 725 to said bridge, the sum of \$750 be, and the same is hereby, appropriated, payable out of the fund of the Fourth ward when the aforesaid sum of \$3,166.75 shall be received and placed to the credit of said ward. (Approved August 3, 1835; Thirty-third council, chap. 8, p. 53.)

JOINT RESOLUTION in relation to the Baltimore and Ohio Railroad Company.

Resolved by the board of aldermen and board of common council of the city of Washington, That the mayor be, and he is hereby, respectfully requested to request the president of the Baltimore and Ohio and Washington Railroad Company to cause the car whistle to be sounded from the northern limits of this corporation until the cars reach the depot in this city; or to adopt such other means as will best secure persons crossing said railroad from the liability of injury by the cars when in motion. (Approved May 20, 1853; Fiftieth council, chap. 444, p. 126.)

JOINT RESOLUTION for carrying into effect certain arrangements with the Baltimore and Ohio Railroad Company in relation to the removal of their depot.

Resolved by the board of aldermen and board of common council of the city of Washington, That the mayor, in conjunction with the joint committee heretofore appointed in relation to the removal of the Baltimore and Ohio Railroad Company in this city, be, and they are hereby, authorized and empowered to carry into effect the arrangement agreed upon by the said joint committee, in the conference with the committee of the Baltimore and Ohio Railroad Company, and referred to in the report of said joint committee, made the 24th day of May, 1849, as follows: That the Baltimore and Ohio Railroad Company shall proceed to erect a permanent depot on square numbered 632, and shall pay to this corporation \$7,200, to be expended by said corporation in the improvement of C and D streets north, between Second street west and North Capitol street; and in case of surplus after improving those streets, that surplus to be applied to the improvement of New Jersey avenue, between C and D streets north; in consideration of which the corporation of Washington to extend the privilege now enjoyed by the said railroad company of using steam-engines on the present line of their road to the intersection of the east side of New Jersey avenue with the north side of C street north (that is, to and into square 632) for the period of thirty years from and after the passage of this resolution: *Provided, however,* That the said company shall agree, in manner to be approved by the attorney of this corporation, that all real estate which now belongs, or which shall hereafter belong, during the said period of thirty years to the said company, with the exception of the track of the railroad of said company, shall be subject to the same assessment, rate of taxation, and sale for non-payment of taxes, during the said period of thirty years, as other real estate in the city of Washington. (Act approved May 30, 1849, chap. 204; Forty-sixth council, p. 92.)

JOINT RESOLUTIONS appointing a committee to enter into arrangements with the Baltimore and Ohio Railroad Company in relation to the removal of their depot in this city.

Resolved by the board of aldermen and board of common council of the city of Washington, That a committee, to consist of the mayor and two members from each board, be and the same is hereby appointed to enter into such an arrangement as the said committee may deem just and expedient on the part of this corporation, with the Baltimore and Ohio Railroad Company, in relation to the removal of the depot of the said company in this city from its present position on Pennsylvania avenue to some more suitable location, in which arrangement the said committee is hereby authorized and empowered, on behalf of this corporation, to grant permission to the said railroad company to use steam-engines in propelling cars on the present line of the Washington Branch of the Baltimore and Ohio Railroad from its entrance into this city to such point on said line, east of the eastern side of New Jersey avenue, as may be selected for the new location of the depot, for any period not exceeding thirty years from the passage of this act, upon the same terms and conditions as steam-engines are now used in propelling cars on the said railroad within the limits of this city, upon the following conditions, viz:

First. That the said Baltimore and Ohio Railroad Company remove their depot in this city from its present location, and shall select some convenient and suitable location for a new depot at some point on the present line of the Washington Branch of said railroad east of the intersection of said branch railroad with the eastern side of New Jersey avenue, and shall take up the remainder of said branch railroad west and south of said eastern side of New Jersey avenue, and relinquish forever the use of the same as a railroad.

Second. That said railroad company shall, within twelve months after the passage of these resolutions, erect at such point as may be selected for a new depot suitable

and permanent buildings and improvements for a depot, on such a scale as may be necessary to afford ample accommodations for the freight and travel on the said branch railroad.

Third. That said railroad company shall pay to this corporation the sum of *eight thousand dollars* within sixty days after the passage of these resolutions, the same to be expended by this corporation in improving C and D streets north between Second street west and North Capitol street; and any surplus, after improving said streets, to be expended in the improvement of New Jersey avenue between C and D streets north; and

Fourth. That the said railroad company shall, at the same time, pay to this corporation the taxes in arrears on the property (other than the road and the cars and engines used upon it) held by the said railroad company in this city, and shall at the same time also dismiss all legal or other proceedings which may have been instituted by the said railroad company in relation to the said taxes or the right of this corporation to impose and collect the same.

Resolved, That the joint resolution entitled "A joint resolution for carrying into effect certain arrangements with the Baltimore and Ohio Railroad Company in relation to the removal of their depot," approved May 30, 1849, be and the same is hereby repealed. (Act approved May 31, 1850, chap. 271, Forty-seventh council, p. 383.)

John W. Maury and Benjamin B. French, esquires, of the board of aldermen, and George S. Gideon and Ephraim Wheeler, esquires, of the board of common council, were appointed on the committee pursuant to the foregoing resolution.

E. J. MIDDLETON,
Secretary of the Board of Aldermen.

AN ACT authorizing the improvement of C and D streets north, between Second street west and North Capitol street, and for other purposes.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the mayor be, and he is hereby, authorized and required to have C and D streets north, between Second street west and North Capitol street, graded and graveled, and a bridge with stone abutments built over the Tiber at D street north, the work to be done by contract with the lowest competent and responsible bidder, after ten days' public notice: *Provided*, That the grade of said street shall be in conformity with the suggestions of the late surveyor, Randolph Coyle, esq., as contained in his letter of the 17th of May, 1847, so far as the same applies thereto: *And provided further*, That no contract shall be made under this act by which this corporation shall be required to expend a greater sum in said improvements than is appropriated by the second section of this act.

SEC. 2. *And be it enacted*, That for the purpose of carrying into effect the improvements authorized by the first section of this act, the sum of \$8,000, or so much thereof as may be necessary, be, and the same is hereby, appropriated, payable out of the money to be paid to this corporation by the Baltimore and Ohio Railroad Company, under the third condition of the agreement entered into with the said company on the 15th day of June, 1850, in pursuance of the joint resolutions of this corporation, entitled "Joint resolutions appointing a committee to enter into arrangements with the Baltimore and Ohio Railroad Company in relation to the removal of their depot in this city," approved 31st of May, 1850.

SEC. 3. *And be it enacted*, That any surplus which may remain of the said appropriation of \$8,000 after the completion of the improvements authorized by the first section of this act shall be, and the same is hereby, directed to be applied, under the direction of the mayor, to the improvement of New Jersey avenue between C and D streets north. (Act approved July 5, 1850, chap. 2; Forty-eighth council, p. 3.)

[NOTE.—In the message of the mayor of Washington to the board of aldermen and board of common council under date of August 25, 1851, containing a summary of the affairs of the corporation for the past year, will be found under head of general fund receipts, "Baltimore and Ohio Railroad Company, \$8,000." Also see statement of the register of the city for the fiscal year ending June 30, 1851, of the general fund receipts, among which appears: "Baltimore and Ohio Railroad Company, \$8,000."]

METROPOLITAN BRANCH.

AN ACT to encourage the extension of direct railroad communication with the city of Washington.

Whereas it has been proposed to construct the Metropolitan Branch of the Baltimore and Ohio Railroad by way of Bladensburg, connecting at that place with the Washington Branch road, and it is important to the interests of this city that the said Metropolitan road be constructed on a more direct line to a point in the city adapted to the accommodation of passengers and the convenient distribution and delivery of freight; and whereas it has been made known to this corporation that the Baltimore and Ohio Railroad Company is willing to adopt a route leading directly into this city and immediately commence work on this end of the said route in case

this corporation shall confer on said company certain privileges necessary to the economical operation of the road and suitable to the requirements of the business community: Therefore,

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the Baltimore and Ohio Railroad Company, in the execution of the powers given to it by an act of Congress approved July 25, 1866, entitled "An act to authorize the extension, construction, and use by the Baltimore and Ohio Railroad Company of a railroad from between Knoxville and Monocacy Junction into and within the District of Columbia," be, and is hereby, authorized to extend the said last-mentioned railroad into and within the city of Washington, entering the said city at the intersection of its northern boundary and New York avenue, crossing said avenue and passing through the northwest corner of square No. 710 to First street east; thence along the center of that street to the present track of the Washington Branch of the Baltimore and Ohio Railroad, and along the route of that track east of New Jersey avenue to the present station in square No. 632, with the privilege of constructing and maintaining two tracks within the city along the above-described line, and of using steam-engines thereon.

SEC. 2. *And be it further enacted,* That the said company may, for the convenient transaction of its business, lay down and maintain railway tracks on D street north, between North Capitol street and the east line of New Jersey avenue, and on North Capitol street, between D street and the north line of C street north, in said city, so far as may be done without interfering with the use of said streets for general purposes and may use steam-engines thereon.

SEC. 3. *And be it further enacted,* That the privilege of using steam-engines on the said Washington Branch, which is granted in the agreement between this city and said company, dated the 1st day of June, 1850, be, and is hereby, extended and granted for a further period of thirty years from and after the expiration of the terms stipulated in said agreement.

SEC. 4. *And be it further enacted,* That the grades of the railways to be constructed by authority of this ordinance shall conform to the legally established or prescribed grades of the streets and avenues on which they are authorized to be laid.

SEC. 5. *And be it further enacted,* That whenever the Baltimore and Ohio Railroad Company shall assent to this ordinance, or whenever any authority or privilege hereby granted shall be accepted or used by the said company, this ordinance shall henceforth have the effect of a contract between this city and said company as if its provisions were formally agreed upon as stipulations between the parties: *Provided, however,* That all streets and avenues or parts of streets and avenues on which tracks shall be laid or maintained in conformity with this act shall be kept properly graded and graveled within the tracks, and for the space of 2 feet beyond the outer rails thereof until such time as the said corporate authorities shall see fit to cause such street or avenue or any part or parts thereof to be paved, and then the space within the tracks and 2 feet beyond the outer rails thereof shall be properly paved like the remainder of the street or avenue and be afterward kept in good repair; and all bridges or culverts crossing through, in, or under such tracks, which shall be required by said corporate authorities for the free passage of streams of water and the proper drainage of said city, shall also be made, constructed, and kept in repair under the direction of the authorities of said city, at the proper cost and expense of said railroad company; and the said railroad company shall be subject to and pay its ratable portion of any special tax imposed upon its property bordering on any street or avenue for any local improvement that shall be made in such street or avenue: *And provided further,* That nothing in this act contained shall be so construed as to prevent this corporation, at any time hereafter when the same shall be considered necessary, from limiting and regulating by law the steam at which any cars, wagons, or other vehicles shall be permitted to be drawn or propelled on any part of said railroad within the limits of the city of Washington, or from enacting such other further police regulations for the use of said road as this corporation may deem necessary for the protection of persons and property along the route of said road. (Approved January 17, 1867. Sixty-fourth council, chap. 148, p. 74.)

BALTIMORE AND OHIO RAILROAD, PRESIDENT'S OFFICE,
Baltimore, January 19, 1867.

SIR: I have received your favor of the 18th instant, with a copy of the act passed by the board of aldermen and board of common council of the city of Washington, and approved by the mayor January 17, 1867, entitled "An act to encourage the extension of direct railroad communication with the city of Washington."

The act is assented to by this company.

Very respectfully yours,

J. W. GARRETT,
President Baltimore and Ohio Railroad Company.

HON. RICHARD WALLACH,
Mayor of the City of Washington.

[Appendix of Abstract A. Referred to in my railroad report September 16, instant. From an authorized copy of the Baltimore and Ohio contained in its publication of laws, etc., in the hands of its attorneys.—A. G. R.]

Articles of agreement between the Baltimore and Ohio Railroad Company and the corporation of Washington, made this 15th day of June, in the year 1850, by and between the Baltimore and Ohio Railroad Company of the first part, and the mayor, board of aldermen, and board of common council of the city of Washington of the second part, witness:

That the said company shall be and is hereby authorized and empowered to remove its depot in the said city from its present location on the Pennsylvania avenue to the lot now occupied by its engine-house, in square No. 632, and that the said company is hereby further authorized and empowered to use steam-engines in propelling cars on the present line of the Washington branch of the Baltimore and Ohio Railroad from its entrance into said city to such point on said line east of the eastern side of New Jersey avenue in the square aforesaid as it may select for the new location of its depot for any period not exceeding thirty years from the passage of joint resolutions of the parties of the second part, approved on the 31st day of May, 1850, entitled "Joint resolutions appointing a committee to enter into arrangements with the Baltimore and Ohio Railroad Company in relation to the removal of their depot in said city upon the same terms and conditions as steam-engines are now used in propelling cars on the said railroad within the limits of said city," upon the following conditions:

First. That the said Baltimore and Ohio Railroad Company remove their depot in said city from its present location, and shall select some convenient and suitable location for a new depot at some point on the present line of the Washington branch railroad east of the intersection of said branch railroad with the eastern side of New Jersey avenue, and shall take up the remainder of said branch railroad west and south of said eastern side of New Jersey avenue, and relinquish forever the use of the same as a railroad.

Second. That the said railroad company shall, within twelve months after the passage of these resolutions, erect at such point as may be selected for a new depot, suitable and permanent buildings and improvements for a depot on such a scale as may be necessary to afford ample accommodations for the freight and travel on the said branch railroad.

Third. That said railroad company shall pay to said corporation the sum of \$8,000 within sixty days from the 31st day of May, 1850, the same to be expended by said corporation in improving C and D streets north, between Second street west and North Capitol street; and any surplus, after improving said streets, to be expended in the improvement of New Jersey avenue, between C and D streets north; and

Fourth. That the said railroad company shall, at the same time, pay to said corporation the taxes in arrear on the property (other than the road and the cars and engines used upon it) held by the said railroad company in this city; and shall, at the same time, also dismiss all legal or other proceedings which may have been instituted by the said railroad company in relation to the said taxes or the right of said corporation to impose and collect the same.

Nothing herein contained to be construed as a waiver on the part of the said company of its right to contest the liability of the property of said company of any and every description, to future taxation by the authorities of the city of Washington, without prejudice from the execution of this agreement.

In testimony whereof the president of the said Baltimore and Ohio Railroad Company hath hereto set his hand and caused the seal of the said company to be hereto affixed, and the mayor of the city of Washington hath hereunto set his hand and the seal of the said corporation on the day and year first aforesaid; and in further execution of the presents, the subscribers other than the above, being the joint committee from each board of said corporation mentioned in the joint resolutions aforesaid, have hereunto set their hands on the day and year aforesaid.

THOMAS SWANN,
President B. and O. R. R. Co.
WALTER LENOX,
Mayor of Washington.
JOHN W. MAURY,
B. B. FRENCH,
E. WHEELER,
JOEL DOWNER,
Joint Committee.

Signed, sealed, and delivered in presence of—

JOS. RADCLIFF.

W. E. HOWARD.

And by T. Swann in presence of—

JNO. H. B. LATROBE.

HUGH BOLTON.

Attest:

WM. MCCORMICK, *Register*.

Received September 23. A. G. R.

ABSTRACT B.—*Baltimore and Potomac Railroad Company.*

CONGRESSIONAL.

By act of the corporation of Washington, approved May 30, 1870 (67th Council, p. 374), said company was authorized to construct a railroad, "commencing at a point on the northern shore of the Eastern Branch of the Potomac River, between south L and M streets, thence running westwardly between said streets to the intersection of Virginia avenue with south L and east Twelfth; thence along Virginia avenue by a tunnel under the surface northwestwardly to south K street; thence along south K westwardly to east Third; thence by a line curving to the right to either the north or south front of the canal northwestwardly to Virginia avenue; thence along Virginia avenue northwestwardly to the intersection of south C and west Ninth."

Company authorized to extend into and within the District of Columbia a lateral railroad, such as the said company shall construct or cause to be constructed in a direction towards the said District, in connection with the railroad which they are about to locate and construct from the city of Baltimore to the Potomac River, in pursuance of their said act of incorporation; and authorized to exercise the same powers, rights, and privileges, and shall be subject to the same restrictions, in the extension and construction of the said lateral railroad into and within the said District as they may exercise or are subject to under and by intent of their said charter or act of incorporation, in the extension and construction of any railroad within the State of Maryland; and shall be entitled to the same rights, compensation, benefits, and immunities, in the use of the said road, and in regard thereto, as are provided in their said charter, except the right to construct any lateral road or roads within the said District from the said lateral branch or road hereby authorized, it being expressly understood that the said Baltimore and Potomac Railroad Company shall have power only to construct from the said Baltimore and Potomac Railroad one lateral road within the said District to some point or terminus within the city and county of Washington, to be determined in the manner hereinafter mentioned. (Act of February 5, 1867, 14 Stats., p. 387.)

Company, in passing into the District aforesaid, and constructing the said road within the same, shall enter the city of Washington at such place, and shall pass along such public street or alley, to such point or terminus within the said city as may be allowed by Congress upon presentation of survey and map of proposed location of said road.

Congress authorized to enact such rules and regulations, prescribing the speed of cars or carriages passing over said road, and any matters relating thereto, necessary for the security of the persons and property of the inhabitants of the District, in such manner as to the present or any future Congress shall seem expedient. Congress shall have power to alter, amend, or repeal this act. (Act of February 5, 1867, 14 Stats., pp. 388 and 389.)

Company, which by the act of Congress entitled "An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Potomac Railroad into and within the District of Columbia," was authorized to extend into and construct within the District of Columbia the lateral branch of its road in said act of Congress mentioned, may enter the city of Washington with their said railroad and construct the same within the limits of said city on and by whichever one of the two routes herein designated the said company may elect and determine upon; that is to say:

First. Beginning at the intersection of Boundary street and North Carolina avenue; then southwestwardly along said North Carolina avenue to south D street; thence along south D street westwardly to Virginia avenue; thence along Virginia avenue northwestwardly to the intersection of south C street and west Ninth street; or,

Second. Beginning at some point on the northern shore of the Eastern Branch of the Potomac River between south L and south M streets; thence westwardly between said streets to the intersection of Virginia avenue with south L and east Twelfth streets; thence along said Virginia avenue northwestwardly to south K street; thence along south K street westwardly to south Fourth street; thence by a line curving to the right to the north bank of the canal, and thence along the said bank of the canal northwestwardly to Virginia avenue; thence along Virginia avenue northwestwardly to the intersection of south C and west Ninth streets. (March 18, 1869, 16 Stats., p. 1.)

Time for the completion of the said lateral branch of the Baltimore and Potomac Railroad extended to the 1st day of February, 1875.

The company, if it shall so elect, authorized to adopt a line in the city of Washington from some point west of east Fourth street, in the line designated in the act of Congress approved March 18, 1869, as passing along south K street, thence crossing to and passing along the south bank of the canal to South Capitol street, and thence northwestwardly to Virginia avenue, there intersecting and passing along the line

described in said act approved March 18, 1869, as passing along Virginia avenue northwardly to the intersection of south C and west Ninth street. (Act of March 25, 1870, 16 Stats., p. 78.)

Company authorized and empowered to extend their lateral branch by way of Maryland avenue, conforming to its grade to the viaduct over the Potomac River, at the city of Washington, known as the Long Bridge, and to extend their tracks over said bridge, and connect with any railroads constructed, or that may hereafter be constructed in the State of Virginia. To effect these purposes the company are authorized and empowered to take possession of, hold, change, and use the said bridge, and the draws connected therewith, in perpetuity, free of cost, and to maintain in good condition the said bridge for railway and ordinary travel, and it shall at all times be and remain a free bridge for public use for ordinary travel. Company to erect and maintain the draw-bridges, so as not to impede the free navigation of the Potomac River, in efficient working condition at all times; and until needful changes are made, to accommodate railroad and other traffic, as contemplated by act, company's duty to repair without delay all damages to the present bridge and maintain it without cost to the United States; and other railroad companies shall have the right to pass over the bridge upon such reasonable terms as may be agreed upon or Congress prescribe. If the company at any time neglect to keep bridge in good repair, and free for public use for ordinary travel, the Government of the United States may enter into possession of the bridge. Right reserved to Congress to alter or amend the law. (Act of June 21, 1870, 16 Stats., p. 161.)

Company authorized to erect over their tracks on Virginia avenue, between west Sixth street and west Seventh street, in the city of Washington, a passenger depot, covering the following described area, to wit: Commencing at the intersection of the building line of south side of south C street produced and the building line of east side of west Seventh street produced; thence along last-mentioned line southward to a point; thence by line parallel with and 40 feet distant northward from building line of southerly side of Virginia avenue to a point in building line of west side of west Sixth street produced; thence by last-mentioned line northward to a point; thence by line parallel with and 40 feet distant southward from building line of northerly side of Virginia avenue to a point; thence northward by a line parallel with and 80 feet distant eastward from the building line of east side of west Seventh street produced to a point in building line of south side of south C street produced; thence by last-mentioned line westward to the place of beginning; which shall be of the same style of architecture as the depot of the Pennsylvania Railroad Company at the city of Lancaster, in the State of Pennsylvania. The assent of the municipal authorities of the city of Washington or of the District of Columbia to be first obtained to the erection of said depot. (Act of March 3, 1871, 16 Stats., p. 585.)

Company shall have the right to extend its track from Virginia avenue along Sixth street to the open grounds between Sixth street and B street north and the canal, described as follows: Beginning at the southwest corner of Sixth street and B street north, running west 150 feet along B street; thence south 802 feet to the present line of the canal; thence east 150 feet to the line of Sixth street; thence north by line of Sixth street to the place of beginning; and the said company shall, so far as the United States can so provide, have the right to hold, use, and occupy the said grounds for the purpose of constructing thereon a passenger depot, to be used by the said company for passenger and express-freight traffic, and for no other purposes; and the said property so occupied by said company, together with the improvements which may be put thereon, shall be subject to tax by the District of Columbia the same as other property in the District of Columbia, and shall be used exclusively for the support of the public schools in said District; and the said company shall lay no more than two tracks along said Sixth street, and, as near as practicable, in the center of said street, and as close together as practicable for the traffic and trains to pass over them.

The rails used for that purpose shall be constructed as flat rails, like those used by street railways, so as to facilitate wagon and carriage travel over the same, and the tracks and the space between the same shall be kept paved with some suitable material by said company, and it shall also pave with proper material at least 2 feet outside of said track. Company shall so adapt the grade of said track to that which at any time may be determined upon by the Board of Public Works, or other authority having the control of grades of said Sixth street. While trains are moving to and from Virginia avenue along Sixth street and said depot the said railroad company shall keep flagmen at the several street crossings to warn people of danger; and all provisions of the board of aldermen and common council of the city of Washington not inconsistent herewith are hereby ratified. The act of Congress approved March 3, 1871, granting a site for a passenger depot to said railroad company upon Virginia avenue is repealed, to take effect when the company obtains possession of the said depot property on Sixth street; and no passenger or other depot shall be constructed by the company on said site. United States reserves the right to repeal or modify the provisions of this act. The tracks of the company shall turn out of Sixth street

and enter the said depot with suitable curvature at the south end thereof; the depot shall not extend beyond B street north, nor shall the tracks ever extend beyond said B street north. (Act of May 21, 1872; 17 Stats., p. 141.)

Baltimore and Potomac Railroad Company.

MUNICIPAL LEGISLATION.

JOINT RESOLUTION in relation to the Baltimore and Potomac Railroad Company.

Whereas a charter has been granted by the Senate and House of Representatives of the United States to the Baltimore and Potomac Railroad Company to construct a railroad to and within the city of Washington, District of Columbia, by act approved February 5, 1867; and

Whereas they did further, by supplemental acts approved March 18, 1869, and March 25, 1870, grant to the said Baltimore and Potomac Railroad Company the option of two lines in the city of Washington, one by Virginia avenue, K street, etc., and the other by North Carolina and Virginia avenues, etc., the said Baltimore and Potomac Railroad Company having now selected the Virginia avenue and K street route, do herewith make application to the mayor and board of aldermen and board of common council of the city of Washington for liberty to construct their railroad upon the Virginia avenue and K street route, in conformity with the accompanying plat: Therefore,

Be it resolved by the board of aldermen and board of common council of the city of Washington, That the Baltimore and Potomac Railroad Company be permitted to construct that portion of their road entering into and within the city of Washington at a point on the northern shore of the Eastern Branch of the Potomac River, between south L and M streets, as set forth in the accompanying plan and profiles; thence running westwardly between said street to the intersection of Virginia avenue with south L and east Twelfth streets; thence along said Virginia avenue, by a tunnel under the surface, northwestwardly to south K street; thence along south K street westwardly to east Third street; thence by a line curving to the right, to either the north or south bank of the canal northwestwardly to Virginia avenue; thence along Virginia avenue northwestwardly to the intersection of south C and west Ninth streets; and they are also permitted to change the grades of certain streets at certain points, as designated on said profile and plans, so that the grades shall conform to the blue figures on said plan, and shall be so laid down upon the books in the city surveyor's office as the established grades: *Provided, however,* That any streets or avenues under which the said railroad may pass shall be bridged or otherwise covered by the said company at their proper expense; and whenever sewers, gutters, curbstones, or sidewalks, flag footways, gas or water pipes, are disturbed or moved by the said company, the same shall be rebuilt in a proper and satisfactory manner at the expense of the said railroad company, and without cost or loss to any citizen or the corporation of Washington. (Approved May 30, 1870; Sixty-seventh Council, chap. 704, p. 274.)

JOINT RESOLUTION giving the assent of the corporation of Washington to the location of the depot of the Baltimore and Potomac Railroad Company.

Be it resolved by the board of aldermen and board of common council of the city of Washington, That the assent of the corporation of Washington is hereby given to the Baltimore and Potomac Railroad Company to erect a depot on Virginia avenue, between Sixth and Seventh streets west, in accordance with the act of Congress entitled "An act supplementary to 'An act to authorize the extension, construction, and use of a lateral branch of the Baltimore and Potomac Railroad Company into and within the District of Columbia, approved February 5, 1871,' approved March 3, 1871." (Approved March 9, 1871, sixty-eighth Council, chap. 420, p. 152.)

AN ACT assigning a site for a passenger depot to the Baltimore and Potomac Railroad Company.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the Baltimore and Potomac Railroad Company, for the purpose of suitably accommodating public passenger travel, is hereby authorized to extend the tracks of its road from Virginia avenue northwardly, along Sixth street west to the canal, and thence across the canal and along the front west of Sixth street to north B street, and to occupy and use, for the purposes only of a passenger depot and express, the grounds between said Sixth street, B street, and the north line of the canal: *Provided,* That the said company shall erect, at its own expense, a good and substantial bridge over the canal, at an elevation of ——— feet above the canal, which bridge shall be built west of the west building line of Sixth street: *Provided further,* That

said company shall use on Sixth street only a flat rail, like that used for street railways, and shall erect a depot of the same style of architecture of the depot of the Pennsylvania Railroad Company at Lancaster, Pa.: *And provided further*, That the act approved March —, 1871, giving the assent of this corporation to the erection of a passenger depot of the Baltimore and Potomac Railroad Company on Virginia avenue, between Sixth and Seventh streets west, or on any part of said avenue, be and the same is hereby repealed, to take effect whenever Congress shall ratify and approve this act, otherwise to remain in full force and virtue. (Approved March 23, 1871; Sixty-eighth Council, chap. 447, p. 160.)

Baltimore and Potomac Railroad Company.

LEGISLATIVE ASSEMBLY.

AN ACT granting certain privileges to the Baltimore and Potomac Railroad Company.

Be it enacted by the legislative assembly of the District of Columbia, That the Baltimore and Potomac Railroad Company be, and are hereby, authorized and empowered to lay a temporary railroad track, to remain for one year after the passage of this act and no longer, from a point on Virginia avenue, in the city of Washington, to and along First street west to the Baltimore and Ohio Railroad Company, and use and occupy the same for railroad purposes; the rails to be of the same pattern as those used by the horse railroad companies; and the said Baltimore and Potomac Railroad Company shall keep the street in repair between the rails and two feet each side of the same: *Provided*, That the said Baltimore and Potomac Railroad Company shall not transfer this franchise to any other person or company: *And provided further*, That the legislature of the District of Columbia reserve the right to repeal or amend this act at its pleasure. (Approved January 13, 1872; first legislative assembly, special session, II, chap. 12, p. 278.)

DISTRICT LAW.

AN ACT in relation to the Baltimore and Ohio, Alexandria and Washington, Baltimore and Potomac and National Junction Railroads.

Be it enacted by the legislative assembly of the District of Columbia, That no locomotive engines or railroad cars of any description shall be run, driven, or propelled over or upon any railroad track or tracks within the cities of Washington or Georgetown at a greater speed than at the rate of 6 miles an hour, under the penalty of \$50 for each and every violation of any of the provisions of this section, to be forfeited and paid by the railroad company owning or using such locomotive engine or railroad car, or the engineer or conductor in whose charge said locomotive engine or railroad car may be, severally and respectively: *Provided*, That this section shall not apply to any car or engine while running through any tunnel under the cities of Washington and Georgetown, or any part thereof.

SEC. 2 *And be it further enacted*, That the Baltimore and Ohio, Alexandria and Washington, Baltimore and Potomac, and National Junction Railroad companies are hereby directed and required (to keep in the day time every point where any public street crosses the railroad track or tracks of said railroad companies a person stationed with a red flag, and in the evening, until arrival or departure of the last train at night, at all the street crossings, a person with a flag and lighted lamp or lantern with red glass) to give warning of the approach of the locomotive engines and railroad cars, of any description, of said companies, under the penalty of \$10 for every time any locomotive engine or railroad car shall pass (at any such crossings without such persons being stationed), and such warning being given, to be forfeited and paid by the said company, or the engineer or conductor in whose charge such locomotive engine or railroad car may be severally and respectively.

SEC. 3. *And be it further enacted*, That no railroad, locomotive engine, or railroad car or train of cars, shall encumber or obstruct any sidewalk or crosswalk, or any street, in the cities of Washington or Georgetown, for a longer period than is absolutely necessary for the safe and expeditious discharge of passengers only, under the penalty of \$25 for each offense, to be forfeited and paid by the railroad company owning or using such locomotive engine or railroad car, or train of cars, or the agent, engineer, or conductor in whose charge such locomotive engine, railroad car, or train of cars may be, severally and respectively.

SEC. 4. *And be it further enacted*, That no railroad company shall lay down any rail or rails, or railroad track or tracks, or shall alter the grade or location of any rail or rails, or railroad track or tracks, in, across, or along any street in the cities of Washington or Georgetown, except when directed and required by the Board of Public Works to alter the grade or location thereof, without having first given twenty days' notice

to the Board of Public Works of the desire and intention of the said railroad company to lay down or alter the grade or location of such rail or rails, railroad track or tracks, except when replacing a worn or broken rail, under the penalty of \$50 for each and every violation of any of the provisions of the section, to be forfeited and paid by the said company, or the person or persons laying or altering the same, severally and respectively.

SEC. 5. *And be it further enacted*, That that portion of the street lying or being between the rails or tracks and 2 feet from the outside rail or track of any railroad company shall be paved in the same manner as the rest of the street or avenue in which such rails or tracks may be laid.

SEC. 6. *And be it further enacted*, That rail or rails, track or tracks, of said companies shall be laid as shall least obstruct the free passage of vehicles and carriages over the same, and the upper surface of the rails shall be laid flush with the surface of the streets, and shall conform to the grades thereof as now established, or as they shall from time to time be re-established or altered, the same to be done at the expense of the said companies; and in all streets or parts of streets which are not paved the rails shall be so laid in such manner as shall least interfere with the public travel thereon, and as shall be authorized and approved by the District government engineer. The railroad companies or their agents shall be required to keep the surface of the streets inside of the rails in good order and repair, and all snow, ice, dirt, and filth cleaned and removed from such portions of the street at the expense of said companies and in such manner as not to obstruct travel in any part of the street, under the penalty of \$50 for each and every violation of any of the provisions of this section, to be forfeited and paid by the said company or the person or persons so violating.

SEC. 7. *Be it further enacted*, That it shall be the duty of the Board of Public Works to notify said railroad companies to lower or raise the rail or rails, or their track or tracks, as the case may require, in accordance with the sixth section of this act; and in case of a failure of said railroad companies to comply with the terms thereof within ten days after said notice, which shall be in writing, then it shall and may be lawful for the Board of Public Works to take up and relay and repair said railroad track or tracks, and assess and collect the same from said neglecting company or companies.

SEC. 8. *And be it further enacted*, That all acts or parts of acts inconsistent with this act be, and the same are hereby, repealed. (Approved August 23, 1871; Acts first legislative assembly, chap. 73, p. 107.)

ABSTRACT C (a).—*Washington and Alexandria Railroad*

MUNICIPAL LEGISLATION.

AN ACT in relation to the Washington and Alexandria Railroad.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That for the purpose of aiding the Washington and Alexandria Railroad Company in the construction and equipment of a railroad from Alexandria, in the State of Virginia, by the shortest practicable route, to some convenient point in the city of Washington for connecting with the depot of the Baltimore and Ohio Railroad, the corporation of the city of Washington agrees to guaranty the certificates of said company to the amount of \$60,000, bearing interest at the rate of 6 per cent. per annum, payable half yearly, and issuable in sums of not less than \$500, the said certificates payable in ten annual installments of \$6,000 each, commencing on the 1st day of January, 1858; which said guaranty, to the amount aforesaid, shall be discharged and satisfied out of the ordinary revenues of this corporation within ten days from the accruing of said certificates, respectively, and upon the surrender thereof to this corporation; and which said guaranty shall be evidenced by the certificate of the mayor, countersigned by the register, to be indorsed on such certificates to the amount aforesaid, to the effect that the same are guarantied as aforesaid: *Provided always*, That the said company shall first execute an assignment to this corporation of all its rights, immunities, and property, as a security for the punctual payment of the interest and principal of said certificates; and further, that the said company shall give such other security for the payment of said interest as shall be satisfactory to the committee hereinafter appointed, which said assignment and security shall inure to the benefit of the holders of said certificates: *Provided further*, That the assent of this corporation shall be first obtained to any other connection with said road than herein provided for.

SEC. 2. *And be it enacted*, That the mayor and one member from each board, to be selected by the presiding officers thereof, be appointed a committee, under whose direction the said certificates shall be issued, and the same, or the proceeds thereof, be applied exclusively to the making of said road: *Provided further*, That said committee

shall be satisfied that the certificates above guarantied will insure the completion and equipment of said road. (Approved February 8, 1855; Fifty-second council, chap. 245, p. 65.)

AN ACT to extend the Alexandria and Washington Railroad from the Long Bridge to the Baltimore and Ohio depot and to the Washington City Canal.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the Alexandria and Washington Railroad Company be, and is hereby, authorized and required to lay down and construct a single track of railway from the foot of the Long Bridge along Maryland avenue to the intersection of said avenue and First street west; thence along said First street across Pennsylvania avenue to Indiana avenue; thence along Indiana avenue to the Baltimore and Ohio Railroad depot, and also to lay down and construct a lateral branch of the said road, commencing at the intersection of Maryland avenue and Seventh street west, along said Seventh street to the Washington City Canal, with suitable turnouts for the business of said company.

SEC. 2. *And be it enacted,* That the right be, and it is hereby, granted to the said company to extend said track at the foot of Seventh street west, along the line of Canal street south, to and across Fourteenth street west; provided, that the mayor shall assent to the distance from the canal at which the track shall be laid. (Approved July 27, 1855; 53d Council, chap. 16, p. 5.)

AN ACT granting certain privileges, conditionally, to the Washington, Alexandria and Georgetown Railroad Company.

Be it enacted by the board of aldermen and board of common council of the city of Washington, That the consent of this corporation is hereby given to the Washington, Alexandria and Georgetown Railroad Company (formerly the Alexandria and Washington Railroad Company) to use steam power in drawing the cars of said company on the structure across the Potomac River, and upon its railway now laid along Maryland avenue and First street west to the present depot of the Washington branch of the Baltimore and Ohio Railroad, at a rate of speed not exceeding four miles per hour, and subject to such regulations as this corporation shall from time to time impose; the consent herein given to be limited to a period of twenty years from the date of this act.

SEC. 2. *And be it enacted,* That the consent of this corporation is hereby given to the said Washington, Alexandria and Georgetown Railroad Company to construct a single track of railway from the intersection of Maryland avenue and Sixth street west, along said Sixth street west, and across the Washington Canal to the south side of Missouri avenue, and to use steam power in drawing its cars on said branch railway: *Provided,* That the said company shall keep the portion of the said street occupied by said track well paved and in good repair, and provided with suitable crossways at the proper places, for vehicles and other wheeled carriages and for general use, and shall also build and always keep in repair a substantial bridge across the said canal, which bridge shall be of the width of said Sixth street, including the footways and carriage-way and become the property of the corporation: *And provided further,* That the use of said street and bridge by the said company, and the use of steam and cars thereon, shall be subject to such regulations as to rate of speed, and otherwise, as this corporation shall from time to time impose.

SEC. 3. *And be it enacted,* That this act shall take effect upon the said Washington, Alexandria, and Georgetown Railroad Company paying, or securing to be paid, to the satisfaction of the mayor, the sums of money heretofore paid and appropriated to be paid on account of the certificates of debt of said company, guarantied by this corporation, and delivering to him the bond of the said company, conditioned to pay within six months all outstanding certificates so guarantied by this corporation. And in the event of said company refusing or failing to comply with said condition for the space of thirty days from the approval of this act, then this act shall be void and of no effect; and upon compliance with said condition within said specified period, and upon the payment by said company, within the said period of six months, of all the unpaid certificates and interest guarantied as aforesaid by this corporation, the mayor shall return to the said company as well the certificates paid as those appropriated for, and shall direct the trustees named in the deed of trust dated April 19, 1855, to hold the same absolved from every claim of this corporation, and to convey the estate thereby vested according to the order of said company, not contrary to law; but if the said company shall fail to pay the said outstanding and unpaid certificates, with interest as aforesaid, within said period of six months, then the said deed of trust to be and remain in full force and effect.

SEC. 4. *And be it enacted,* That so much of the act approved July 27, 1855, as authorizes and directs the said company to construct a branch of its railroad from Maryland avenue along Seventh street west to the Washington Canal, and thence

along the line of the canal to and across Fourteenth street west, be, and the same is hereby, repealed.

SEC. 5. *And be it enacted*, That the right to enforce such regulations as may be necessary to have kept in repair, at the expense of said company, its different tracks of railway, is hereby reserved to this corporation.

SEC. 6. *And be it enacted*, That the said railroad company shall keep its roads and tracks level with the grade of the streets and avenues through which they shall pass, and shall pave the streets and avenues between the rails and two feet outside of each rail with the same material that may be used by the corporation in paving streets, and shall keep the same in repair at all times; they shall send a man bearing a red flag in the day time, and a bright red light during the night, in front of each train while passing through the city, and shall besides ring a large bell, and shall also at night have a brilliant reflector in front of the engine attached to each train; that all trains shall be prohibited from crossing any intersecting street or avenues backwards, and shall not stop or remain thereon, and the company shall not lay any siding or switch across any intersecting street or avenue; that all blowing of steam whistles by engines on railroads within the city limits shall be prohibited, and there shall be no blowing off of steam, except such as shall be imperatively required for working the engine; and for any violation of any of the provisions of this act, or any regulations hereafter to be made, the said company shall forfeit and pay to this corporation a fine of fifty dollars, to be collected and applied as other fines are imposed by this corporation.

SEC. 7. *And be it enacted*, That the said railroad company shall be required to erect a permanent and commodious station-house and freight and passenger depot on Maryland avenue, between Seventh and Tenth streets west, and at no other point in the city of Washington, and always keep the same in repair, under penalty of forfeiture of the privileges conferred by this act; and also that the said company shall be required to fully protect the interests of this city in regard to rates of freight and travel, allowing no discrimination to be made against it in favor of any other city or locality; and further, that there shall be required a publication of freight and passenger tariff from Baltimore and from Washington to all points on and connections with this road.

(Approved, May 24, 1866. Sixty-third Council, chap. 26, p. 18.)

ABSTRACT C (b).—*Washington, Alexandria and Georgetown Railroad Company.*

CONGRESSIONAL LEGISLATION.

By act of corporation of Washington, under date of May 24, 1866 (63 Council, p. 18), consent was given by the corporation of Washington to said company (formerly the Alexandria and Washington Railroad Company), to use steam power in drawing cars of company on the structure across the Potomac River, and upon its railway now laid along Maryland avenue and First street west to the present depot of the Washington Branch of the Baltimore and Ohio Railway, at rate of speed not exceeding 4 miles per hour, and subject to such regulations as the corporation shall from time to time prescribe. The consent was limited to twenty years from the date of the act. Consent was also given in said act to said company to construct a single track of railway from the intersection of Maryland avenue and Sixth street west, along said Sixth street west, and across Washington Canal to the south side of Missouri avenue; said company to use steam power in drawing cars; the use of said street and steam and cars thereon subject to such regulations as the corporation might from time to time impose. The company was required to construct bridge over Sixth street, the bridge to become property of the corporation. The act was only to take effect upon the happening of certain conditions in the act at length set out.

A corporation lawfully succeeding to the charter, rights and privileges of the "Alexandria and Washington Railroad Company" be, and the same is hereby, authorized to extend said railroad from the track as the same is now, or may hereafter be, laid through Maryland avenue at its intersection with Virginia avenue, through and along said Virginia avenue in an easterly direction, to its intersection with D street south; thence along D street and across the Washington Canal to New Jersey avenue; thence by a curve to the left, of not less than 1,000 feet radius, to a point in square number 732; thence by an underground excavation or tunnel, passing under squares number 732, 762, 761, 760, 787, 786, 816, 815, 839, 838, 866, 865, 864, and the different streets and avenues intervening, to a point of square number 893; thence by a curve of not less than 1,000 feet radius into Eighth street east; thence, by the most direct and eligible route, to an intersection with the Washington Branch of the Baltimore and Ohio Railroad.

Provisions of sections 3 and 4 of the act to which this is an amendment shall be applicable to the extension of said road or tracks as hereby authorized, and that it shall be lawful for said company to construct a draw or other bridge across the Washing-

ton Canal, at its intersection with D street south, of such plans and dimensions as may be approved by the corporation of Washington, and so as not to interfere with the navigation of said canal. And also to use steam-power in transportation of passengers and freight over said railroad and branches, subject, however, to such restrictions and regulations as may be imposed by the corporate authorities of the city of Washington in respect to such portions thereof as may be located in said city.

Consent of Congress be, and the same is hereby, granted, for a period of eighteen months from the passage of this act, to the Alexandria, Washington and Georgetown Railroad Company to use steam-power in drawing the cars of said company on the structure across the Potomac River erected by said company, under the provisions of the act entitled "An act to extend the charter of the Alexandria and Washington Railroad Company, and for other purposes," approved March 3, 1863, and along the railway now laid by said company, or which may be hereafter laid, under the provisions of the said act, along Maryland avenue and First street west, in the city of Washington, to the present depot of the Washington Branch of the Baltimore and Ohio Railroad, subject always, and in all particulars, to such restrictions and regulations concerning the use of said steam-power as the corporation of Washington may by its ordinances (at) any time impose upon the said railroad company: *Provided*, That said company shall not propel their engines at a greater rate of speed than 5 miles per hour within the corporate limits of Washington City. (Act of July 25, 1866; 14 Stats., p. 248.)

Consent of Congress granted to the Alexandria, Washington and Georgetown Railroad Company, to use steam power in drawing the cars of said company on the structure across the Potomac River erected by said company under the provisions of the act entitled "An act to extend the charter of the Alexandria and Washington Railroad Company, and for other purposes," approved March 3, 1863, and along the railway now laid by the said company, or which may be hereafter laid, under the provisions of the said act, along Maryland avenue, in the city of Washington, to the present depot of the Washington Branch of the Baltimore and Ohio Railroad, subject always, and in all particulars, to such restrictions and regulations concerning the use of such steam power as the corporation of Washington may, by its ordinances, at any time impose upon, or at any time require of, the said company. (Act of March 2, 1867; 14 Stats., p. 435.)

ABSTRACT D.—*Alexandria and Washington Railroad Company.*

CONGRESSIONAL LEGISLATION.

The Alexandria and Washington Railroad Company, incorporated by the legislature of Virginia on February 27, 1854, authorized to extend their road from any point on the Virginia side of the Potomac River to which said road may be constructed at or above the aqueduct of the Alexandria Canal in the District of Columbia, connecting with the Baltimore and Washington railroad depot by the most convenient and practical route, passing through and along such streets and avenues, except Pennsylvania avenue, as the corporate authorities thereof may respectively approve, subject to certain provisions. Company also authorized to construct a bridge over the Potomac River, on or above or west of aqueduct of Alexandria Canal Company, bridge only to be built on or over aqueduct piers with consent of canal company, and in such way as not to injure or obstruct use or navigation of said canal.

Company also authorized to establish depots in the cities of Washington and Georgetown at such points and to lay a railroad track or tracks to such point or points within said cities, and through and along such streets and avenues, except Pennsylvania avenue, as may be respectively approved by the corporate authorities of said cities, and to make all necessary tunnels; and said company to be subject to such terms, conditions, and restrictions and taxation and to such rules and regulations relative to the construction, repairs, and working of their road within said cities as the corporate authorities thereof, within their respective limits, may from time to time prescribe. (Act of August 4, 1854; 10 Stats., p. 810.)

Company authorized to extend their said railroad from the south side of the Potomac across said river, to and along Maryland avenue to the Capitol Grounds, and across Pennsylvania avenue along First street to Indiana avenue, and thence to the Baltimore and Ohio depot; and that all the ordinary rights, privileges, and liabilities incident to similar corporations are conferred upon said company for that purpose. The cars shall not be drawn on the streets aforesaid, or on the structure across the Potomac River mentioned in the second section of this act, by steam power without the consent of Congress and of the corporate authorities of the city of Washington thereto.

Said company are empowered to make such additional structure or passage-way along either side of the Potomac bridge as may render the same safe for public use, and so as not to hinder the general use of said bridge for ordinary travel, which shall be ascertained by one or more experienced civil engineers, who shall report by proper surveys and estimates to the Secretary of the Interior for his approval; the whole

cost of which surveys and construction of said additional bridge for the purpose aforesaid to be paid by the said company. And the said company shall construct such draws as shall correspond with those now in use on the said bridge, and of such model as shall be determined by the Secretary of the Interior, and which shall afford reasonable facilities for navigation on the Potomac River.

Said company shall keep that portion of the avenues or streets occupied by their road in good repair, and provided with suitable crossways at the proper places for vehicles and wheeled carriages, and for general use. The track of said road shall be laid as nearly in the center of the streets and avenues through which it passes as may be without interfering with the water-mains and gas-pipes, and the speed of travel shall be subject to such regulations as the corporate authorities of the city of Washington shall from time to time prescribe, under such penalties as the said corporate authorities shall impose. (Act of March 3, 1863; 12 Stats., p. 805.)

ABSTRACT E.—*Orange, Alexandria and Manassas Railroad Company.*

CONGRESSIONAL LEGISLATION.

Company, a corporation chartered under the laws of the State of Virginia, authorized to exercise its functions as a common carrier and transport passengers and freight within the District of Columbia, and for the purpose shall have authority to run locomotives and trains upon and over the bridge which has been constructed by the Baltimore and Potomac Railroad Company across the Potomac River at the western terminus of Maryland avenue, in the city of Washington, upon the terms and conditions prescribed in the act of Congress granting to said Baltimore and Potomac Railroad Company the privilege to construct and operate said bridge.

Company empowered to put down a single track along Maryland avenue, from its western terminus to its intersection with the Washington Canal, then in process of being filled up, and thence by a curve southwardly along the ground heretofore occupied by the said canal to the intersection of D or E streets south, as may be determined by the engineer in charge of the public buildings and grounds, and thence along one of said streets by a tunnel under the public grounds east of the Capitol building, upon such route and in such manner as the said engineer may prescribe, to Second or Third street east; thence along said Second or Third street to the line of the Baltimore and Ohio Railroad; and the track of said railroad company, except so much thereof as is laid in the said tunnel or its approaches, shall conform to the grade of the streets occupied as above, as shall be prescribed by the Board of Public Works.

Company shall pay to the District of Columbia one-half of the cost of arching the Washington Canal from Maryland avenue to the street on which the said railroad track enters the said tunnel. Nothing in act contained shall be construed to grant to said company the right to establish a depot along said avenue or streets until consent for the same has first been obtained from the legislative assembly of the District of Columbia. (Act of June 8, 1872; 17 Stats., p. 342.)

ABSTRACT F.—*Alexandria, Loudoun and Hampshire Railroad Company.*

Company authorized and empowered to extend a branch of their railroad into and within the city of Georgetown, in the District of Columbia, and that said company shall have and exercise the same rights and powers and be subject to the same regulation and restrictions, in regard to the construction and use of such extension, as are or may be granted and prescribed by the charter of said company in regard to the main stem of the road, or by the laws of Virginia in relation to railroads within that State.

Corporate authorities of the city of Georgetown shall have power to regulate the manner and speed of running the cars of said company within the limits of said city.

Company shall have power to construct and operate their said extension upon such streets and public ways in said city as may be deemed most expedient by the said company, and with the consent of the corporate authorities of said city. (Act of February 5, 1861; 12 Stats., p. 128.)

ABSTRACT G.—*Piedmont and Potomac Railroad Company.*

CONGRESSIONAL LEGISLATION.

ACT of the legislative assembly of the District of Columbia, entitled "An act to authorize a subscription to the stock of the Piedmont and Potomac Railroad Company upon certain conditions," approved and sanctioned.

Before any part of the said subscription shall be paid the governor and the Board of Public Works, acting separately, shall be satisfied that the railroad will be completed and used to a point on the Potomac River opposite the city of Washington or Georgetown by the aid of said subscription. No part of the subscription by said District

shall be paid until \$1,000,000 shall have been subscribed by private parties and actually paid in cash and expended in the construction of the road. Company shall enter into bonds in the sum of \$800,000, with good and sufficient individual sureties, to be approved by the governor of the District of Columbia and the Secretary of the Treasury of the United States, conditioned for the repayment, with interest, of the money subscribed to the capital stock of the company by said District, if the said company shall fail to complete the said road for the running of cars within three years from the acceptance of the \$600,000 to be subscribed by the District; and no part of such subscription shall be paid until such bond be given, approved, and filed in the office of the secretary of said District. Tax levied by authority of said act not to exceed \$36,000 for interest in any one year. No bonds to raise the funds that may be required to pay said subscription shall be disposed of by the District at less than par. (Act of May 23, 1872; 17 Stats., p. 158.)

SCHEDULE A.—*Streets and sections of streets occupied by tracks.*

WASHINGTON AND GEORGETOWN RAILROAD COMPANY.

Street.	From—	To—	Remarks.
Bridge	Between High and Potomac.	Twenty-sixth, west	
Twenty-sixth, west	Bridge	Pennsylvania avenue	
Pennsylvania avenue, around Washington Circle.	Seventeenth, west	Fifteenth, west	
Fifteenth, west	New York	Pennsylvania avenue	
Pennsylvania avenue	Fifteenth, west	First, west	
First, west	Pennsylvania avenue	Indiana avenue (branch road).	
Indiana avenue	First, west	New Jersey avenue, (branch road).	
New Jersey avenue	Indiana avenue	Between Indiana avenue, (branch road) and B, northwest.	
First, west	Pennsylvania avenue	B, south	
B, east	First, west	Intersection Second and Pennsylvania avenue, east.	
Pennsylvania avenue, east.	Intersection B and Second, east.	Eighth, east	
Eighth, east	Intersection of South Carolina avenue and Pennsylvania avenue, east.	Intersection M and Eighth, east, at Navy-Yard.	
Boundary, north	Between Thirteenth and Fourteenth, west.	Fourteenth, west	
Fourteenth, west	To W	New York avenue	
W, northwest	From 14 E; half the square across that.	Boundary	
New York avenue	Fourteenth, west	Intersection New York avenue and Fifteenth, west.	
Seventh, north	Boundary	Water	
Water	Seventh, south	P, east	
<i>Streets authorized.</i>			
Bridge	Intersecting with High	Bridge over Rock Creek	Act of Congress, May 17, 1862; 12 Stat. at Large, p. 388, sec. 1.
Pennsylvania avenue	Rock Creek	Fifteenth, west	Do.
Fifteenth	New York avenue	Pennsylvania avenue	Do.
Pennsylvania avenue	Fifteenth, west	Foot of Capitol Grounds	Do.
Around the southern boundary of Capitol Grounds	Boundary, easterly to Pennsylvania avenue		Do.
Pennsylvania avenue	Pennsylvania avenue	Eighth, east	Do.
Eighth, east	Pennsylvania avenue	Navy-yard gate	Do.
Eastern front of Capitol, from southern to northern gate, and thence by A street to depot of Baltimore and Ohio Railroad, and thence from depot through first street west, to Pennsylvania avenue, so as to intersect with said main road.	Boundary, north	Potomac River	Do.
Seventh	Boundary, north	New York avenue	Do.
Fourteenth, west	Boundary, north	Pennsylvania avenue, west, at its intersection with New York avenue.	Do.
New York avenue	Fourteenth, west		Do.

Right to extend railroad to any public highway in county of Washington, commencing at the present terminus of either of said roads, extending north from Seventh and Fourteenth streets, and from Capitol Square to Maryland avenue, and extending north from the eastern extremity of that avenue, first having obtained the consent of the levy court therefor. (Act of Congress, June 30, 1864; 13 Stat., p. 322, Sec. 1.)

Remove tracks from Capitol Grounds and to run same as may be directed from time to time by officer in charge of public buildings and grounds. (Act of Congress, May 8, 1872, 17 vol., p. 84, sec. 12.)

SECTION A.—*Streets and sections of streets occupied by tracks*—Continued.

WASHINGTON AND GEORGETOWN RAILROAD COMPANY—Continued.

Street.	From—	To—	Remarks.
<i>Streets authorized—Continued.</i>			
Twenty-sixth street....	Pennsylvania avenue	M street, north	Act of Congress, March 3, 1875, 18 Stats., p. 393.
M, north	Twenty-sixth, west	Georgetown, to connect with tracks on Bridge street.	Do.
Water	Seventh, west	Intersection of P street, south.	Act of Congress, March 3, 1875, 18 Stats., p. 510, sec. 1.
P, south	Intersection with Seventh, west.	West side Arsenal gate...	
Seventh, west	Boundary	Potomac River	Act of Congress, May 17, 1862, 12 Stats., p. 388, sec. 1.
Fourteenth, west	Boundary	New York avenue	Do.
New York avenue	Fourteenth, west	Pennsylvania avenue to point of intersection with main line.	Act of Congress, May 17, 1862, 12 Stats., p. 388, sec. 1. Double or single track branch railway.

NOTE.—Company directed to take up such portion of its tracks as may come in the way of improvement of the Capitol Grounds and relay the same as may be directed by the officers in charge of the improvement of the Capitol Grounds. (Act of March 3, 1875, 18 Stats., p. 385.)

SCHEDULE B.—*Streets occupied by tracks.*

METROPOLITAN RAILROAD COMPANY.

Twenty-eighth, west ...	P, west	Dunbarton	
Dunbarton	Twenty-eighth, west	Thirty-second, west	
Thirty-second, west	Dunbarton	O, west	
O, west	Thirty-second, west	Thirty-fifth, west	
Thirty-fifth, west	O, west	P, west	
P, west	Thirty-fifth, west	Intersection New Hampshire and Connecticut avenues.	
Connecticut avenue	Boundary	Seventeenth, west	
Seventeenth, west	Connecticut avenue	New York avenue	
H, west	Seventeenth, west	Fourteenth, west	
Fourteenth, west	H, west	F, west	
F, west	Fourteenth, west	Fifth, west	
Fifth, west	F, west	D, west	
D, west	Fifth, west	New Jersey avenue	
New Jersey avenue	D, west	C, west	
Indiana avenue	Intersection Indiana avenue and Fourth, west.	do	
C, west	Indiana avenue	Delaware avenue	
Delaware avenue	C	B	Branch road to Capitol Grounds.
B	Delaware avenue	First, east	
First, east	B	East Capitol	
East Capitol	First, east	Ninth, east	
Seventh, north	Boundary, north	Boundary, north	
Boundary	Seventh, north	Ninth, north	
Ninth, north	Boundary	B	
B	Ninth	Sixth	
Sixth	B	Missouri avenue	
Missouri avenue	Sixth	Four-and-a-half	
Four-and-a-half	Missouri avenue	O, south	
O, south	Four-and-a-half	Water	
<i>Streets authorized.</i>			
New Jersey avenue	A and New Jersey avenue, north side of Capitol.	D street, north	Act of Congress July 1, 1864, 13 Stat., p. 326, sec. 1.
D, north, C, north, and Indiana avenue.	New Jersey avenue	Intersection of D, north, and Indiana avenue.	Double-track railway.
D, north, Indiana avenue and Louisiana avenue.	Intersection D, north, and Indiana avenue.	Fifth, west	
Fifth, west	D, north	F, north	
F, north	Fifth west	Fourteenth, west	Do.
Fourteenth, west	F, north	I, north	

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SCHEDULE B.—*Streets occupied by tracks*—Continued. METROPOLITAN RAILROAD COMPANY—Continued.

Street.	From—	To—	Remarks.
<i>Streets authorized—Continued.</i>			
I, north	Fourteenth, west	Crossing Pennsylvania avenue to junction of New Hampshire avenue with Twenty-third, west.	Double-track railway.
New Hampshire avenue	Junction of New Hampshire avenue and Twenty-third, west.	Washington Circle	Do.
New Jersey avenue	Intersection D and New Jersey avenue, north.	Massachusetts avenue....	Act of Congress July 1, 1864. Double or single track railway.
Massachusetts avenue	New Jersey avenue.....	H, north.....	Double-track railway.
H, north	Massachusetts avenue....	Seventeenth, west, intersecting double-track road.	
Four-and-a-half	Intersection of D, north, and Four-and-a-half.	Arsenal gate.....	
Ninth, west	Intersection of Ninth and Washington Canal.	M, north.....	Act of Congress, March 3, 1865, 13 vol., p. 536, sec. 1. Double or single track railway.
M, north	Ninth, west.....	Twelfth, west	
Twelfth, west	M, north.....	Washington Canal.....	
Maryland avenue	Washington Canal.....	Potomac River	Double or single Washington branch railway.
Massachusetts avenue	Intersection of Massachusetts avenue with H, north.	K, north	
K, north	Massachusetts avenue....	Washington Circle	
K, north	Washington Circle	Rock Creek and across bridge to Water street, Georgetown.	
Water street in Georgetown.	Rock Creek.....	Greene	
Greene	Water	Gay.....	
Gay	Greene	First.....	
First	Gay.....	Fayette.....	
A, north	Intersection of A and New Jersey avenue, north side of the Capitol.	First, east	
First, east	A, north.....	East Capitol	
East Capitol	First, east	Ninth, east	
E, north	East Capitol	L, south	

Remove tracks from Capitol Grounds and to run same as may be directed from time to time by officer in charge of public buildings and grounds. (Act of Congress May 8, 1872, 17 vol., p. 84, sec. 12.)
Company directed to take up such portions of its tracks as may come in the way of the improvement of the Capitol Grounds and relay the same as may be directed by the officers in charge of the improvement of the Capitol Grounds. (Act of March 3, 1875, 18 Stats., p. 385.)

SCHEDULE C. UNION RAILROAD COMPANY.

Fifteenth, west	Junction of New York avenue.	I, north.....	Act of legislative assembly, January, 19, 1872. Acts of first special sessions, p. 59, sec. 1.
I, north	Fifteenth, west.....	Connecticut avenue	Do.
Connecticut avenue	I, north.....	P, north	Do.
P, north	Connecticut avenue	Rock Creek and over Rock Creek to West street in Georgetown.	Do.
West	Rock Creek.....	High	Do.
High	West	Second, Third, or Fourth	Do.
Second, Third, or Fourth.	High	Fayette.....	Do.
NOTE.—Privilege of passing through West street to Montgomery			
Stoddard	West	Stoddard	Do.
High	Montgomery	High	Do.
Second, Third, or Fourth.	Stoddard	Second, Third, or Fourth	Do.
Fayette	High	Fayette.....	Do.
High	Second, Third, or Fourth	Intersection with High...	Do.
NOTE.—Privilege of connecting with the Metropolitan Railroad, with its consent, at corner of Seventeenth and H, northwest.			
	Its intersection with Fayette.	Northern boundary line of Georgetown.	Do.

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SCHEDULE C—Continued.

UNION RAILROAD COMPANY—Continued.

Street.	From—	To—	Remarks.
Seventeenth, west	H, north	Connecticut avenue.....	Act of legislative assembly, January 19, 1872. Acts of first special sessions, p. 59, sec. 1.
P, North	Nineteenth, west	Seventh, west	Act of legislative assembly, January 19, 1872. Acts of first special sessions, p. 59, sec. 1. Branch road.

NOTE.—Privilege of extending branch road on P, north, from Seventh, west, to North Capitol, and North Capitol from P, north, to Glenwood Cemetery. (Act of legislative assembly, January 19, 1872. Acts of first special session, p. 59, sec. 1.)

SCHEDULE D.

BOUNDARY AND SILVER SPRING RAILWAY COMPANY.

Seventh street road	Boundary.....	Boundary line of District of Columbia.	Act of legislative assembly, January 19, 1872. Acts of first special session, p. 55, sec. 1. Single or double track railway with the necessary switches and turnouts.
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SCHEDULE E.

ANACOSTIA AND POTOMAC RIVER RAILROAD COMPANY.

Eleventh, east	Northern end of Navy-Yard bridge.	M, south.....	Act of Congress, February 18, 1875. 18 Stats., p. 328, secs. 1 and 3.
M, south	Eleventh, east.....	Third, east	Do.
Third, east	M, south.....	N, south	Do.
N, south	Third, east	Water	Do.
Water.....	N, south.....	Twelfth, west	Do.
Twelfth, west	Water	Ohio avenue	Do.
Ohio avenue.....	Twelfth, west	Fourteenth, west	Do.
Fourteenth, west.....	Ohio avenue	Intersection of Pennsylvania avenue.	Do.
M, south	Third, east	Water	Do.
Eleventh, west	Water	Intersection of Twelfth and B, southwest.	Do.
Navy-Yard bridge.....	Northern end of	Uniontown (eastern terminus of road).	Do.
Twelfth, west.....	Its intersection with Ohio avenue, northwest.	D, north	Act of Congress, April 5, 1876. 19 Stat., p. 26. Change of terminus.
D, north	Twelfth, west.....	Fifteenth, west.....	Do.
Fifteenth, west	D, north.....	Pennsylvania avenue, west, near the Treasury gate.	Do.
Louisiana avenue, north	Intersection of Twelfth, west, and Ohio avenue.	South side of Pennsylvania avenue, near Center Market.	Act of Congress, April 5, 1876. 19 Stat., p. 26. Road extended.
Eleventh, east	Northern end of Navy-Yard Bridge.	M, south.....	Act of Congress, February 18, 1875. 18 Stat., p. 328, sec. 1.
M, south	Eleventh, east.....	Water	Do.
Navy-Yard Bridge	Northern end of	Uniontown (eastern terminus).	Do.

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SCHEDULE E--Continued.

ANACOSTIA RAILROAD COMPANY.

Street.	From—	To—	Remarks.
M, south	Water, between Sixth and Seventh, south.	Eleventh, east	
Eleventh, east	M, east	Anacostia Bridge	
Anacostia Bridge	Eleventh, east	Uniontown	

SCHEDULE F.

COLUMBIA RAILWAY COMPANY.

New York avenue	Eastern side of Fifteenth, west.	Intersection with K, north	Act of Congress, May 24, 1870, 16 Stat., p. 133, sec. 1. Single or double track railway, with necessary switches and turnouts.
K, north	Intersection with New York avenue.	Intersection with Massachusetts avenue.	Do.
Massachusetts avenue	Intersection with K	Intersection with H, north	Do.
H, north	Intersection with Massachusetts avenue.	Eastern termination with Columbia Turnpike gate	Do.
New York avenue	Intersection New York avenue and Fifteenth, west.	Intersection New York avenue and Massachusetts avenue.	
New York avenue	Intersection New York and Massachusetts avenues.	Intersection Seventh and Massachusetts avenue.	
Massachusetts avenue ..	Intersection Seventh and Massachusetts avenue.	Intersection Fourth and H, north.	
H, north	Fourth, north	Intersection Fourteenth, east, and Maryland avenue.	
Maryland avenue, east	H, east	Fifteenth, east	

CAPITOL, NORTH O STREET AND SOUTH WASHINGTON RAILWAY COMPANY.

First, west	Front Capitol grounds ..	G, north	Act of Congress, March 3, 1875, 18 Stat., p. 498, sec. 1. Single or double track railway.
G, north	First, west	Fourth, west	
Fourth, west	G, north	O, north	
O, north	Fourth, west	Eleventh, west	
Eleventh, west	O, north	E, north	
E, north	Eleventh, west	Fourteenth, west	
Fourteenth, west	E, west	Ohio avenue	
Ohio avenue	Fourteenth, west	Intersecting Twelfth	
Twelfth, west	Ohio avenue	Virginia avenue	
Virginia avenue	Twelfth, west	Intersecting with Maryland avenue.	
Maryland avenue	Virginia avenue	First, west	
Fourth, west	O, north		
Fourteenth, west	Intersection of Ohio avenue and Fourteenth, west.	C, west	Act of Congress May 23, 1876, 19 Stat., p. 56. Authorized to lay a single track and run its cars one way upon P street, between Fourth and Eleventh streets, instead of laying double track and running its cars both ways upon O street.
			Act of Congress March 3, 1881, 21 Stats., p. 414, sec. 1. Authorized at discretion to remove its track from Ohio avenue and Twelfth street, west.

SCHEDULE F—Continued.

CAPITOL, NORTH O STREET AND SOUTH WASHINGTON RAILWAY COMPANY—Cont'd.

Street.	From—	To—	Remarks.
C, west.....	Fourteenth, west.....	Virginia avenue to connect with road at junction of said avenue and street.	Act of Congress March 1, 1883, 22 Stats., p. 432, sec. 1.
Eleventh, west.....	P, north.....	Boundary.....	
Eleventh, west.....	Intersection C and Eleventh, southwest.	Water, south.....	
Water, south.....	Eleventh, west.....	M, south.....	
E, north.....	Eleventh, west.....	Ninth, west.....	Branch at intersection of Third and B streets, south.
Ninth, west.....	E, north.....	Louisiana avenue, north..	
Louisiana avenue, north	Ninth, west.....	Ohio avenue.....	
Ohio avenue, north.....	Louisiana avenue, north..	Intersection Ohio avenue and Twelfth, west.	
Maryland avenue.....	Intersection of First, west, and Maryland avenue.	Intersection Maryland avenue, Virginia avenue, and C, south.	
C, south.....	Intersection Maryland and Virginia avenues and C, south	Intersection Virginia avenue and Ninth, south.	
Virginia avenue.....	Intersection Maryland and Virginia avenues and C, south	Twelfth, southwest.....	
Water.....	Between Sixth and Seventh, southwest	Eleventh, southwest.....	
Eleventh, southwest...	Water.....	Virginia avenue.....	
Twelfth, southwest...	Virginia avenue.....	Ohio avenue.....	
Ohio avenue.....	Louisiana, southwest....	Fourteenth, southwest....	
Fourteenth, southwest.	Between B and C, southwest.	Ohio avenue.....	
Fourteenth, southwest.	Ohio avenue.....	Pennsylvania avenue.....	
Pennsylvania avenue...	Fourteenth, southwest...	E, northwest.....	
E, north.....	Fourteenth, west.....	Eleventh.....	
E, north.....	Eleventh,.....	Ninth.....	
Eleventh.....	E, north.....	Boundary.....	
Intersection O and Eleventh.	Eleventh, north.....	Fourth, north.....	
Intersection P and Eleventh.	Eleventh, north.....	New Jersey avenue.....	
New Jersey avenue.....	P, north.....	O and Fourth, north.....	
Fourth, north.....	New Jersey avenue and O, north.	G.....	
G, north.....	Fourth, north.....	New Jersey avenue.....	
New Jersey avenue.....	G.....	Intersection F and First, west.	
First, west.....	New Jersey avenue.....	Intersection Indiana avenue and C, north	

ABSTRACT H.—*Washington City and Point Lookout Railroad Company. (Leased by Baltimore and Ohio.) Bladensburg to Shepherd's.*

CONGRESSIONAL LEGISLATION.

Company authorized and empowered to extend their railroad into and within the District of Columbia to a point on the Eastern Branch of the Potomac River between the Potomac River and the point where the Baltimore and Potomac Railroad crosses the said Eastern Branch; and a branch from the main stem of said railroad to a point at or near the southern terminus of the southeastern boundary line between said District and the State of Maryland.

Company authorized to exercise the same powers, rights, and privileges, and be subject to the same restrictions in the extension and construction of their said railroad into and within the said District, as they may exercise or are subject to under an act of the general assembly of Maryland approved April 4, 1870, in the construction and operation of their railroad within said State; and shall be entitled to the same rights, compensations, benefits, and immunities in the use of said road, and in regard thereto, as are provided in said act of the State of Maryland, it being expressly understood that said company shall have power to construct only one railroad within said District, and also the said branch road. Company to commence construction of said road within two years, and complete the same, with at least one set of tracks, within four years from the passage of act, otherwise rights and privileges to cease and determine. (Act of January 22, 1873; 17 Stats., p. 413.)

Company may enter the city of Georgetown with their railroad, and construct the same within the limits of said city, on and by the following route: Beginning at a point on the northeastern boundary line of the District of Columbia; thence to the mouth of Piney Branch of Rock Creek, by a route north of the Soldiers' Home, avoiding any property of the United States; thence by way of Rock Creek to a point near its mouth; thence by way of Water street, in Georgetown to a point near the northeastern terminus of the Aqueduct Bridge in said city; thence along the Potomac River to the northwestern boundary of the District of Columbia, so as to connect with the Washington and Ohio Railroad, with authority to construct a bridge across the Potomac River above navigation, upon plans and specifications to be first approved in writing by the Secretary of War; also to construct a branch railroad outside the limits of Washington City to connect this road with the Washington branch of the Baltimore and Ohio road. Location of route to be subject to the approval of the engineer in charge of public buildings and grounds. Nothing in this act shall be so construed as to permit or authorize the Washington City and Point Lookout Railroad Company to enter upon or use any property owned or controlled, or in any manner to interfere with any right or privilege heretofore granted to the Chesapeake and Ohio Canal Company by their charters, or amendments thereto, without the consent of said Chesapeake and Ohio Canal Company and its lessees is first had and obtained. Company shall establish a depot at some point in Georgetown, on Water street, between Rock Creek and the Aqueduct Bridge. Company shall construct its railroad in the county of Washington herein authorized so that wherever it shall cross any public road it shall cross the same by an overgrade or undergrade crossing, by bridge or tunnel, so as not to impede public travel upon said roads, and shall construct that part of said railroad along Rock Creek in the valley of said creek, passing west of the P-street bridge, by a tunnel through the hill west of said P-street bridge; and said road crossings and said tunnel shall be located and constructed in accordance with plans and specifications to be first approved in writing by the engineer in charge of public buildings and grounds.

This act may be altered, amended, or repealed at any time, and rights and privileges to cease and determine unless company completes its road to Georgetown, with at least one track, within three years from act. (Act of June 23, 1874; 18 Stats., p. 274.)

REPORT OF WM. OSCAR ROOME, CHIEF SPECIAL ASSESSMENT DIVISION, TO THE COMMISSIONERS, SHOWING THE ASSESSMENTS MADE AGAINST RAILROADS FOR SURFACE IMPROVEMENTS AND ON THE OUTSIDE OF THE TRACKS OF THE ROADS.

OFFICE OF THE COMMISSIONERS, DISTRICT OF COLUMBIA,
SPECIAL ASSESSMENT DIVISION,
Washington, September 12, 1887.

To the honorable the Commissioners of the District of Columbia:

GENTLEMEN: In reference to paper No. 53653 I have the honor to report that in the assessments for the improvement of the various streets and avenues, the cost of the surface work on the geographical space included between the points 2 feet outside of each outer rail was charged to the street railroad company occupying such spaces.

In the cases of lots owned by a street railroad company, the property was assessed by the frontage on the improvement, as in cases of private citizens. Attached hereto I submit a copy of my report, dated January 27, 1886, on paper No. 39926, addressed to the Engineer Commissioner, District of Columbia, which recites the whole history, and the facts stated therein remain unchanged, except the payments subsequently made, as indicated thereon in red ink. I have no assessments against steam railroads for work along their tracks.

Very respectfully,

WM. OSCAR ROOME,
Chief of Special Assessment Division, District of Columbia.

OFFICE OF THE COMMISSIONERS, DISTRICT OF COLUMBIA,
Washington, September 9, 1887.

SIR: The Commissioners direct me to request you to make to them a full and prompt report (with respect to special assessments) in answer to the following extract from

letter of inquiry from Hon. John J. Ingalls, chairman of the Senate Committee for the District of Columbia, under date of March 8, last, viz :

"3. State the present method of taxation, with amount of taxes paid annually by each company (street railroad) and amount of taxes unpaid, if any."

Very respectfully,

W. TINDALL,
Secretary.

Mr. WILLIAM O. ROOME,
Chief Special Assessment Division.

Table of outstanding indebtedness of the several railway companies for special assessments.

Name of company.	Due for paving tracks.	Due on real estate assessed.	Total.
Columbia.....	\$11, 257. 27	.....	\$11, 257. 27
Connecticut Avenue and Park Railway Company, or their successors.....	6, 655. 56	.....	6, 655. 56
Metropolitan.....	147, 500. 00	.....	147, 500. 00
Anacostia and Potomac River.....	None.	None.	.....
Capitol, North O Street and South Washington.....	All paid.	.....	.....
Washington and Georgetown.....	41, 080. 00	\$184. 21	41, 264. 21
	206, 492. 83*	184. 21	206, 677. 04

The amount due on real estate is on interest from 1877.

Very respectfully,

WM. OSCAR ROOME,
Chief of Special Assessment Division.

NOVEMBER 15, 1887.

To ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.

OFFICE OF THE COMMISSIONERS, DISTRICT OF COLUMBIA,
SPECIAL ASSESSMENT DIVISION,
Washington, January 27, 1886.

SIR: In reference to paper No. 39926 I have the honor to report the following :

Statement of the amounts charged in the revision of assessments against the several street-railroad companies in the cities of Washington and Georgetown, D. C., for the pavement of the carriage-way.

	Square yards.	Amounts assessed.	Amounts paid.	Balance due.
Capitol, North O and South Washington Railroad Company.....		\$2, 828. 85	\$2, 828. 85	.....
Columbia Railroad Company.....	4, 871. 74	11, 257. 27	.....	\$11, 257. 27
Connecticut Avenue and Park Railway Company in District of Columbia, or their successors.....	2, 218. 52	6, 655. 56	.....	6, 655. 56
Metropolitan Railroad Company.....	53, 306. 277	162, 898. 10	.....	162, 898. 10
Washington and Georgetown Railroad Company.....	15, 933. 24	76, 313. 07	12, 207. 27	64, 105. 80
	76, 329. 777	259, 952. 85	15, 036. 12	244, 916. 73

I am informed, however, that the judgments obtained in the court against the Washington and Georgetown Railroad Company and the Metropolitan Railroad Company, the only cases tried, reduced these charges to \$41,080 and \$147,500, respectively.

Mis. Doc. No. 38, Senate, first session Forty-seventh Congress, contains a complete statement in detail and the history of these cases.

The assessor, District of Columbia, reports the following lots as owned by the railroad companies, on which assessments have been levied in the names of various parties

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for the improvement of streets and alleys in front of said lots, and payments made as hereinafter stated, but by whom made the records of this office do not show :

COLUMBIA STREET RAILWAY COMPANY.

Square.	Lot.	Street.	Amount of assess- ment unpaid.	Amount paid.	Amount of in- terest paid.	Date of payment.	Amount refunded by drawback.
North of 1049.....	1	H.....		\$190.81		Aug. 26, 1875	\$7.27
Do	2	H.....		90.72		do	2.59
1½ acres 15th street east, and block 29, lot 21, Long Meadows, Benning's road, no assessment.							

METROPOLITAN RAILROAD COMPANY.

Square 171	2	.....		\$102.08		Oct. 2, 1879	\$10.02
Do	3	.....		128.93		do	12.64
Do	4	.....		128.93		do	12.64
Do	13	.....		329.04		do	87.06
Do	14	.....		329.04		do	87.06
Do	15	.....		329.04		do	87.06
Do	16	.....		329.04		do	68.86
Do	17	.....		1,080.80		do	451.29
Do	17	.....		890.50		May 24, 1875	208.56
Do	18	.....		214.58		do	44.79
Do	19	.....		191.98		do	40.07
Do	20	.....		203.29		do	42.46
Haw's sub. of Mount Pleasant.	*45-52	7th st. road		78.42	\$50.79	Sept. 30, 1879	.....
	(†)	do		40.84		Sept. 17, 1873	.....
28 acres.	8. Co.	No assessment.					
E. of 93	11	West		61.93	50.19	July 13, 1887	.....
Do	12	do		61.93	50.19	do .....	.....
Do	13	do		61.93	50.19	do .....	.....
Do	14	do		61.93	50.19	do .....	.....
Do	15	do		61.94	50.19	do .....	.....
Do	16	do		61.93	50.19	do .....	.....
Do	17	do		61.93	50.19	do .....	.....
Do	18	do		61.93	50.19	do .....	.....
Do	20	do		99.08	80.30	do .....	.....
Do	21	do		14.86	12.04	do .....	.....
Do	22	Not fronting on street.	No assessment.				
Do	390 fr.	West		816.63	By drawback transferred from square 171, Feb. 4, 1881.		
	200 fr.	do	Balance	263.94	paid	Feb. 7, 1881	
126	{ 0	Fayette }	No assessment.	682.26	359.89	Oct. 25, 1882	
	{ 281	Madison }					

ANACOSTIA AND POTOMAC RIVER STREET RAILROAD COMPANY.

	772	Monroe	(*)				
	773	do	(*)				
	774	do	(*)				
	775	do	(*)				
	776	do	(*)				
	777	do	(*)				
	778	do	(*)				

* Inclusive.

† No number.

CAPITOL, NORTH O ST. AND SOUTH WASHINGTON RAILROAD COMPANY.

304	4	Twelfth	(*)				
577	5	Twelfth and V	(*)				
	5	B		\$112.93	\$47.21	June 21, 1881	
	5	Third & Canal	(*)				

* No assessment.

WASHINGTON AND GEORGETOWN RAILROAD COMPANY.

Square.	Lot.	Street.	Amount of assess- ment unpaid.	Amount paid.	Amount of in- terest paid.	Date of payment.	Amount refunded by drawback.
Georgetown:							
Square 30	Of *43		(*)				
Do	Of 44	Grace		\$284. 60		June 15, 1875	\$128. 13
Do	Of 44	do		160. 96		July 2, 1879	65. 79
Do	45	do		684. 37		June 5, 1875	158. 07
Do	Of 46	Bridge		855. 80		Feb. 10, 1874	482. 32
Do	Of 48, 49	High		396. 58	\$103. 42	Aug. 21, 1876	
Square 234	14	W street	(†)				
Do	15	do	(†)				
Do	†16	do	(†)				
Do	†24	Fourteenth		174. 17	17. 99	April 2, 1874	38. 35
Do	†25	do		174. 17	17. 99	do	38. 35
Do	§24	do		46. 23	5. 17	Jan. 21, 1876	. 29
Do	§25	do		46. 23	5. 17	do	. 29
Do	30	Boundary		54. 86		Oct. 23, 1873	18. 59
Do	31	do		46. 85		do	15. 87
Do	32	do		46. 85		do	15. 86
Do	14	Alley		8. 61		Mar. 22, 1882	
Do	15	do		8. 61		do	
Do	16	do		8. 61		do	
Do	17	do		\$10.17 and interest from April 6, 1877, at 10 per cent.			
Do	100	do		Sub of lot 17 }			
Do	102	do		Sub of lot 17 } see above.			
Do	103-115	W street		Subs of lots 11 to 17, inclusive, all of which are paid except 17. (See above.)			
Do	116-119	Alley		Lot 11	8. 61	May 26, 1882	
				Lot 12	8. 61	do	
				Lot 13	8. 61	do	
				(14, 15, and 16, see above.)			
Square 440	Orig. 1	Boundary		380. 87		May 3, 1877	
Do	Orig. 2	do		223. 51		do	
Do	3, 7-12	Seventh and F streets; front of these lots no assessment. are subs of original lots 1 and 2. (See above.)					
Square 441	28	T street	(†)				
Do	29	do	(†)				
Do	30	do	(†)				
Do	31	do	(†)				
Do	28	Alley		39. 99		Apr. 20, 1882	
Do	29	do		12. 80		do	
Do	30	do		12. 80		do	
Do	31	do		12. 80		do	
Square 504	1	Four-and-a-half		615. 35	459. 57	June 5, 1880	
Do	1	P street		23. 93		Dec. 23, 1881	
Do	2	do		14. 70		Mar. 7, 1887	
Do	3	do		14. 70		June 28, 1880	
Do	4	do		14. 70		do	
Do	5	do		14. 57		do	
Do	6	do		14. 57		do	
Do	7	do		14. 57		do	
Do	8	do		14. 57		do	
Square 504 (old alley, new part).		do	17. 40				
504	9	do		52. 94		June 28, 1880	
Do	9	Water		30. 66		do	
Do	10	do		30. 66		do	
Do	Of 11	do		44. 22		do	
Do	21	O street	78. 32	Interest from Mar. 28, 1877, at 10 per cent.			
Do	22	do	78. 32	Interest from Mar. 28, 1877, at 10 per cent.			
Square 633	11	C street		594. 78		June 4, 1880	
Do	11	N. J. avenue		892. 92	29. 54	Jan. 19, 1876	211. 51
Do	12	do		184. 71	4. 59	do	142. 51
Do	13	do		184. 71	4. 59	do	142. 51
Do	1	do		1, 256. 56	28. 74	do	154. 61
Do	8	First		354. 48	79. 15	do	17. 87
Do	7	do		354. 48	79. 15	do	9. 13
Do	6	do		354. 48	79. 15	do	9. 13
Do	5	do		354. 48	79. 15	do	9. 13
Do	4	do		695. 03	155. 68	do	9. 13
Do	1	B street	(||)				
Do	2	do	(||)				
Do	3	do	(||)				

* Background; no assessment.

† No assessment.

‡ Carriage-way.

§ Sidewalk, etc.

|| No assessment.

100 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

WASHINGTON AND GEORGETOWN RAILROAD—Continued.

Square.	Lot.	Street.	Amount of assess- ment unpaid.	Amount paid.	Amount of in- terest paid.	Date of payment.	Amount refunded by draw back.
	4	B street.	(*)				
	These lots (except lot 11) are subdivided and known as sub-lots 14 to 64, in- clusive.						
Square 635	Of 5	First		\$99.72		Feb. 28, 1877	
Do	6	do		199.42		do	
Do	7	do		199.42		May 3, 1880	
Do	Of 8	do		99.72	\$21.00	Apr. 3, 1879	
Do	Of 8	do		99.71		May 27, 1880	
Do	Of 9	do		99.71		Sept. 30, 1879	
Do	Of 9	do		99.71		Aug. 31, 1881	
Do	11	B street	(*)				
Square 907	Part	M street		46.91	40.04	Oct. 29, 1885	
Do	Part	do		35.12	29.98	do	

* No assessment.

Very respectfully,

WM. OSCAR ROOME,
Chief of Special Assessment Division, District of Columbia.

To the ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.

REPORT OF ROS. A. FISH, ASSESSOR OF THE DISTRICT OF COLUMBIA, TO THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

ASSESSOR'S OFFICE,
Washington, D. C., September 28, 1887.

GENTLEMEN: I have the honor to state, in reply to your letter of the 9th instant, containing the following extract from a letter of Hon. J. J. Ingalls, of March last: "3. State the present method of taxation, with amount of taxes paid annually by each company (street railroad), and amount of taxes unpaid, if any."

The method of taxation of the real estate belonging to street and steam railroads is the same as in cases of individuals. It is based upon the assessed value returned by regularly appointed assessors, at \$1.50 per \$100. The assessment upon real estate is made once in three years. All improvements made during a fiscal year are assessed the year following. The assessment for personal property is made upon "capital stock" of the company, under acts March 3, 1877, and June 11, 1878, which make provision that all the shares are to be appraised in bulk, at a fair marketable value, on the first day of June of each year, and that the assessed value of all real estate owned by said corporation is to be deducted therefrom. All general taxes (real and personal) assessed against the street railroads have been paid to date, except such as are specified in the following table, which are disputed by the companies.

[Extract from letter of the Commissioners to the Senate, dated December 27, 1882. Forty-seventh Congress, second session. Senate Mis. Doc. No. 14.]

A.—Statement of assessment of the Washington and Georgetown Railroad Company on stock from 1863 to 1868, inclusive, during which period tracks were not assessed as real estate.

Name assessed.	Year.	Assessed value of stock.	Tax.	Tax credited as paid.	Tax due.
Washington and Georgetown Railroad Company	1863	\$200,000	\$1,500	\$1,500	
Do	1864	200,000	2,200		\$2,200
Do	1865	200,000	2,000		2,000
Do	1866	200,000	2,200		2,200
Do	1867	200,000	2,500		2,500
Do	1868	200,000	3,000		3,000

ASSESSOR'S OFFICE, D. C., December 14, 1882.

ROB. P. DODGE, Assessor.

No assessment on stock against the other street railroads.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 101

OFFICE OF THE COLLECTOR OF TAXES,
Washington, December 22, 1882.

No reason of record is found in this office for the omission to collect taxes for the years as above shown for which no credit appears.

JOHN F. COOK,
Collector, District of Columbia.

Tracks as real estate.

Year.	Tax assessed.	Tax collected.		
<i>Washington and Georgetown Railroad Company.</i>				
1869.....	\$3,780		Supposed to be dropped because of a decision of the attorney of the Dis- trict (Dec. 14, 1874), that there was no ownership of the streets, and the "right of use" could not be assessed.	
1870.....	4,680	.....		
1871-'72.....	4,590	.....		
1873.....	.....	.....		
1874.....				
1875.....				
1876.....				
<i>Metropolitan Railroad Company.</i>				
1866 to 1868.....				Same.
1869.....	1,050	.....		
1870.....	1,350	.....		
1871-'72.....	1,275	.....		
1873.....	1,275	.....		
1874.....	.....	.....		
1875.....	.....	.....		
1876.....				
Capitol, North O and South Washington ..			No track assessed.	
Columbia Railway Company.....			Do.	
Anacostia and Potomac Railway Company.....			Do.	

ROB. P. DODGE, Assessor.

ASSESSOR'S OFFICE, December 14, 1882.

Statement of the annual tax on steam and street railroad companies since the last assessment in 1886.

STREET RAILROADS.

Road.	Personal.	Real estate.	Tax.
Washington and Georgetown	\$1,000,000	\$349,126	\$15,000.00
Metropolitan	717,000	212,124	10,755.00
Anacostia and Potomac	6,660	2,517	99.90
Columbia Street	100,000	20,093	1,500.00
Capitol, North O and South Washington	235,000	80,424	3,525.00

NOTE.—The taxes, real and personal, of these roads, are paid to 30th June, 1887.

STEAM RAILROADS.

		Tax.
[Baltimore and Ohio Railroad.]		
Real estate:		
In Washington County—		
Non-agricultural	\$1,961	
Agricultural	12,338	
In Washington City.....	174,486	
Total.....	188,785	\$2,760.28
Personal:		
Tracks, etc.....	134,490	
Express wagons, etc.....	3,000	
Telegraph poles, etc.....	4,415	
	141,905	2,128.58
Total.....		4,888.86

Statement of the annual tax on steam and street railway companies, etc.—Continued.

STEAM RAILROADS—Continued.

		Tax.
[Baltimore and Potomac Railroad.]		
Real estate:		
In Washington County, agricultural.....	\$5,064	
In Washington City.....	433,501	
Total.....	438,568	\$6,553.16
Personal: In Washington City, tracks, etc.....	113,850	1,707.75
		8,260.91

The taxes, real and personal, of these roads are paid to 30th June, 1887.

Statement of the license tax on the cars of the street railroads.

An act was passed by the legislative assembly District of Columbia, August 23, 1871, imposing a tax of \$6 on each two-horse car and \$3 on each one-horse car. This tax was regularly paid by the companies until the personal-tax law of March 3, 1877, went into effect. Since its passage the companies have refused to pay the license tax, with two exceptions; in 1882 the Capitol, North O street and South Washington Company paid \$96, and in 1887 the Metropolitan Company paid \$213. The companies refusing to make any return to this office, an official count was made, by officers detailed for that purpose, showing:

Washington and Georgetown road:

60 two-horse cars, at \$6.....	\$360	
20 one-horse cars, at \$3.....	60	
		\$420
North Capitol and O Street road, 32 one-horse cars, at \$3.....		96
Anacostia road, 6 one-horse cars, at \$3.....		18
Metropolitan road, 57 one-horse cars, at \$3.....		171
Columbia road, 15 one-horse cars, at \$3.....		45
Tax of.....		750

for the year 1883. Since then the street-railway service has largely increase, and it is safe to assume that at least \$1,000 a year is due the District, on account of this license, from the street-railroad companies.

Respectfully,

ROS. A. FISH,
Assessor.

To the COMMISSIONERS DISTRICT OF COLUMBIA.

[Indorsements.]

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
October 17, 1881.

Respectfully referred to the Engineer Department, District of Columbia.

W. TINDALL,
Secretary.

I have delivered an opinion fully covering this matter some years ago. See letter, which seems to have been mislaid.

A. G. R.

MEMORANDUM TO ACCOMPANY SCHEDULE OF STREETS AND AVENUES OCCUPIED BY
THE METROPOLITAN RAILROAD COMPANY.

A.—As to the tracks on Seventeenth street from Pennsylvania avenue to Connecticut avenue, and on Connecticut avenue from the intersection of Seventeenth street and Connecticut avenue to Boundary street and the rights derived from the Connecticut Avenue and Park Railway Company.

The Connecticut Avenue and Park Railway Company was incorporated under and in pursuance of the act of Congress approved July 13, 1868 (15 Stats., 85).

The capital stock was fixed at \$50,000, each share being of the par value of \$25.

Subscription books were opened, and two thousand and eighty shares of stock were subscribed for.

The company was duly organized August 8, 1872.

Twenty-five per cent. of the amount subscribed was paid in. Material was purchased, and the track was completed on or about April 5, 1873.

The road was temporarily equipped with the cars and horses of the Metropolitan Railroad Company, and was run by the Connecticut Avenue and Park Railway Company until June 20, 1874.

Up to that time the road was operated at a loss. It was considerably in debt, and it was evident that it could not be successfully run as a separate road.

At a meeting of the stockholders, held on the day named, it was—

“Resolved, That in consideration of the terms of union proposed in the resolutions adopted on the 6th of the present month by the joint meeting of the directors of the Metropolitan and Connecticut Avenue and Park Railway Company, and the further consideration of the assumption by the Metropolitan Railroad Company of any and all debts that may be now owing by this company, the stockholders in the Connecticut Avenue and Park Railway Company hereby agree to assign, relinquish, and transfer to the Metropolitan Railroad Company all of its railway tracks, and all other of its property, rights, franchises, and privileges of every kind, which assignment and transfer shall be deemed to have been consummated and complete upon the reception by the stockholders of the Connecticut Avenue and Park Railway Company of the respective proportions of stock of the Metropolitan Railroad Company to which they may be entitled under the terms of the aforesaid resolution.” (Minutes, pp. 19, 20.)

In pursuance of this resolution, the individual stockholders of the Connecticut Avenue and Park Railway Company executed separate assignments and transfers of their respective interests and subscriptions to the Metropolitan Railroad Company. (See subscription book.) In consideration of these transfers, which were made by all the stockholders of the Connecticut Avenue and Park Railway Company, the Metropolitan Railroad Company issued to said stockholders stock to such an amount as was equivalent, at the valuation of \$30 per share, to the sums paid by said stockholders on account of their subscriptions to the capital stock of the Connecticut Avenue and Park Railway Company.

The indebtedness of the Connecticut Avenue and Park Railway Company was assumed and paid by the Metropolitan Railroad Company.

The cost of constructing the road and of running the same until the transfer took place was \$17,203.23.

There was issued in respect of the subscriptions to the stock of the Connecticut Avenue and Park Railway Company 401 shares of stock, each share of the par value of \$50.

B.—As to the track on Seventh street extended, beginning at the point of intersection of Boundary street and Rockville turnpike, and running to the boundary line of the District of Columbia, and the rights derived from the Boundary and Silver Spring Railway Company.

The Boundary and Silver Spring Railway Company was incorporated by the act of the legislative assembly of the District of Columbia approved January 19, 1872. (See acts of first legislative assembly, special session, II, chap. xxxiii.)

The company was organized under the provisions of this act, purchased some real estate, and proceeded to construct the road authorized by the charter.

On the 31st of January, 1873, it executed a deed to the Metropolitan Railroad Company, recorded in liber 908, folio 260, of the land records of the District of Columbia, by which it conveyed to the Metropolitan Railroad Company certain pieces or parcels of ground on Seventh street extended, its stables, cars, tracks, and personal property, together with all other property of the Boundary and Silver Spring Railway Company, “and the rights, franchises, and privileges of every kind whatsoever conferred upon said company by act of the legislative assembly of the District of Columbia approved January 19, 1872.”

The deed recites the proceedings of the two companies which resulted in the conveyance.

The consideration for the deed was that the Metropolitan Railroad Company—

(1) Should issue one share of its stock to the Boundary and Silver Spring Railway Company for every \$30 said company had paid on account of the property transferred to the Metropolitan Company, which was fixed at the sum of \$24,552;

(2) Should assume the debt of \$2,392.25 due on the real estate conveyed;

(3) Should assume a debt of \$293.12.

In the discharge of the obligation thus assumed the Metropolitan Railroad Company issued 752 shares of its capital stock, each share being of the par value of \$50, but considered in respect of this transaction to be of the value of \$30.

The difference between the value of said 752 shares of stock at \$30 per share (\$22,560) and the amount in respect of which stock was to be issued (\$24,552), being the sum of \$1,992, was paid in cash by the company.

The unpaid purchase money due on some of the property purchased, \$2,392.25, was also paid, as was the debt due R. M. Johnson, as appears from the books of the company.

At the time of the execution of the said deed to the Metropolitan Railroad Company there were outstanding 3,167 shares of the Boundary and Silver Spring Railway Company all of which were delivered to the Metropolitan Railroad Company and are now in its possession.

It is alleged by the attorney for the District that the act of the legislative assembly incorporating the Boundary and Silver Spring Railway Company was void, because of the provision of section 54 of the Revised Statutes of the United States relating to the District of Columbia, which declared that the legislative assembly should not pass any *special law* "granting to any corporation, association, or individual any special or exclusive privilege, immunity, or franchise whatsoever."

At the time of the passage of the act in question it was not supposed that the language quoted inhibited the legislature of the District from passing acts of incorporation like the one under consideration.

It was found necessary, or at least desirable, that the legislative intent should be more clearly expressed, and on the 10th of June, 1872, it was enacted:

"That no further street railroads shall be laid down in the city of Washington without the consent of Congress." (Section 224, Rev. Stat. D. C.)

C.—As to the tracks.

On Seventeenth street, from I street north to Connecticut avenue.

On Connecticut avenue, from the intersection of Seventeenth street and Connecticut avenue to P street north;

On P street north and West (now P) street, from Du Pont Circle to High (now Thirty-second) street;

On High (now Thirty-second) street, from West (now P) street to Third (now P) street;

On Third (now P) street, from High (now Thirty-second) street to Fayette (now Thirty-fifth) street;

On Fayette (now Thirty-fifth) street, from Third (now P) to Second (now O) street;

On Second (now O) street, from Fayette (now Thirty-fifth) street to High (now Thirty-second) street;

On High (now Thirty-second) street, from Second (now O) street to Dumbarton avenue;

On Dumbarton avenue, from High (now Thirty-second) street to Montgomery (now Twenty-eighth) street;

On Montgomery (now Twenty-eighth) street, from Dumbarton avenue to West (now P) street; and the rights derived from the Union Railroad Company.

The Union Railroad Company was incorporated by the act of the legislative assembly of the District of Columbia, approved January 19, 1872.

Two thousand shares of the capital stock were subscribed for, and several installments were paid thereon.

The company was organized in compliance with the requirements of the act of the assembly, but the details of the organization can not be given, because the books of the Union Railroad Company are not in the possession of this company and can not now be found.

With the money obtained from the subscribers for the stock the work of constructing the road was begun.

In August, 1872, the Metropolitan Railroad Company received from the Union Railroad Company a proposition with reference to the consolidation of the two roads.

On the 29th of August, 1872, the following terms of consolidation were agreed upon by the two companies:

"1. That the Union Railroad Company will transfer to the Metropolitan Railroad Company the subscriptions made to the stock of the Union Railroad Company and binds itself to the payment of not less than \$50,000 on the said subscriptions, and in considerations of such transfer and payment the Metropolitan Railroad Company will issue to the stockholders of the Union Railroad Company one share of stock of the Metropolitan Company for every \$30 paid in; and in addition to the above, when said transfer and payment shall have been made, will issue to the Union Company as a bonus 200 shares of stock of the Metropolitan Company, all of which stock, when so issued, shall entitle the holder thereof, after the Georgetown branch of the road shall have been put into operation, to all the rights and privileges to which the present stockholders of the Metropolitan Company are entitled.

"2. The Metropolitan Company will assume the liabilities of the Union Company for lumber, iron, and other railroad materials that it may have on hand and deliver to the Metropolitan Company, and also its liability for the land purchased for its stables and the laying of the foundations thereof, taking the same at cost price, the said materials and other property to be received as part of the subscription guaranteed by the Union Railroad Company, and one share of stock of the Metropolitan Railroad Company to be issued for every \$30 cost price thereof in the same manner as if it were a cash payment on account of the said subscription.

"3. The Metropolitan Company will pay or assume the cost and expenses already incurred by the Union Railroad Company in laying down and taking up railroad track in I street and other incidental expenses and losses not exceeding in all \$3,000.

"4. If this proposition be accepted by the Union Railroad Company, the Metropolitan Company will construct, with the least possible delay, a railway track connecting with the Metropolitan road from Fayette street, in Georgetown, by way of P street bridge and Connecticut avenue.

"5. The Metropolitan Company will declare all of its stock fully paid as soon as the road shall be completed, prior to which time such a declaration would have no legal effect, to say nothing of the impropriety of discriminating against the present stockholders."

In the execution of this agreement 1,839 shares of the capital stock of the Metropolitan Railroad Company were issued, each of the par value of \$50, and the difference between the value of these shares, estimated at \$30 per share, and the whole amount for which the company was liable under the terms of the agreement was paid in cash.

The Metropolitan Railroad Company then proceeded with the construction of the tracks on the streets above enumerated and since that time has run its cars thereon.

Concerning the power of the legislative assembly to incorporate the company, the same remarks are applicable that are made with reference to the Boundary and Silver Springs Railway Company.

D.—Concerning the occupation of Delaware avenue and D street northwest to New Jersey avenue, referred to by the attorney for the District, and explanation made in the statement heretofore transmitted, attention is called to the fact that by the act of Congress approved May 8, 1872, the Metropolitan Railroad Company was required to remove its tracks from the Capitol Grounds, "and to run the same as they may be directed from time to time by the officer in charge of the public buildings and grounds."

From the foregoing statement it will be seen that of the 14,350 shares of stock of the Metropolitan Railroad Company now outstanding there were issued:

	Shares.
In respect of the Connecticut Avenue and Park Railway Company	400
In respect of the Boundary and Silver Spring Railway Company	752
In respect of the Union Railroad Company	1,839

Making a total of..... 3,041

The cost of constructing the parts of the road in respect of which this stock was issued, independent of the cost of maintaining and repairing, was considerably over \$100,000.

[Indorsement.]

I see no objection to an act legalizing the company's tracks. I think, however, it should be required to dismiss its writ of error and pay our judgment. The rest calls for no comment.

A. G. R.

106 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

(Appendix A, Schedule B, N. W.)

Statement of the roads and highways of the District of Columbia occupied by the tracks of the Metropolitan Railroad Company, furnished in compliance with the request contained in the letter of the attorney for the District of May 2, 1887.

Street or avenue occupied.	Between what points.	Character of track.	Under what authority occupied.
East Capitol street.	From Ninth street, E., to First street, E...	Double ...	Under authority of the act amending the act incorporating the Metropolitan Railroad Company, approved March 3, 1865, Stats. at Large, Vol. XIII, p. 536.
First street, E.....	From East Capitol street to A street, N.	Double ...	Under authority of the act above referred to amending the act incorporating the company.
First street, E. (1) .	From A street, N., to B street, N.	Double .	That part of the road described in the lines embraced by the bracket, and numbered 1, 2, 3, and 4, was constructed and maintained under the following circumstances :
B street, N. (2)	From First street, E., to Delaware avenue.	Double .	
Delaware avenue (3)	From B street, N., to C street, N.	Double .	
C street, N. (4) ...	From Delaware avenue to New Jersey avenue.		
The road, as defined by the original act of incorporation, approved July 1, 1864, Stats. at Large, Vol. XIII, p. 326, commenced at the junction of A street, north, and New Jersey avenue, at the north side of the Capitol, and running along New Jersey avenue to D street.			
The act above referred to, amending the charter, gave the company the privilege of extending the road from its terminus, as defined in the act, along A street, north, to First street, east, and along First street, east, to East Capitol street.			
When the Capitol Grounds were extended, that part of the proposed line on New Jersey avenue, between B street, north, and A street, north, and on A street, north, between New Jersey avenue and First street, east, was included therein. The proposed line then became impracticable, and, as the present officers of the company are informed, it was decided and directed by those having jurisdiction and control of the public grounds that the road should be constructed along First street, east, from A street, north, to D street, north, along D street, north, to Delaware avenue, along Delaware avenue to C street, north, and along C street, north, to New Jersey avenue, in the place and stead of the road along A street, north, to New Jersey avenue, and along New Jersey avenue to C street, north.			
Under the same authority a double track was laid from the intersection of Delaware avenue and B street, north, about 300 feet in length, towards the Capitol into the Capitol Grounds.			
New Jersey avenue	From C street, north, to D street, north.	Single	Under authority of original act of incorporation, referred to above.
D street, north... }	From New Jersey avenue to Fifth street, west.	Single ..	Under authority of original act of incorporation, referred to above.
C street, north... }		Single ..	
Indiana avenue }		Single ..	
and Louisiana avenue. }		Double .	
Fifth street, west..	From Louisiana avenue to F street, north.	Double ...	Under authority of original act of incorporation.
F street, north....	From Fifth street, west, to Fourteenth street, west.	Double ...	Under authority of original act of incorporation.
Fourteenth street, west.	From F street, north, to H street, north.	Double ...	Under authority of original act of incorporation.
H street, north (A)	From Fourteenth street, west, to Seventeenth street, west.	Double ...	Under authority of original act of incorporation.
Seventeenth street, west.	From Pennsylvania avenue to Connecticut avenue.	Double ...	Under authority of the act of Congress incorporating the Connecticut Avenue and Park Railway Co. (approved July 13, 1868, Stats. at Large, Vol. XV, p. 85), to whose rights and privileges this company succeeded.
Seventeenth street west (B).	From Pennsylvania avenue to New York avenue.	Double ...	Constructed to obtain access to the company's stables at the corner of New York avenue and Seventeenth street, under the authority conferred by section 10 of the act of incorporation before referred to.
Connecticut avenue	From the intersection of Seventeenth street and Connecticut avenue to the Boundary.	Double ...	Under authority of the act of Congress incorporating the Connecticut Avenue and Park Railway Company, above referred to. Also under the authority of the act of the legislative assembly of the District of Columbia, approved January 19, 1872 (acts of the first legislative assembly, special session, II, Chap. XXXIV), above referred to, as to that part of the line on Seventeenth street and Connecticut avenue between I street, north, and P street, north.

Statement of the roads and highways of the District of Columbia occupied by the tracks of the Metropolitan Railroad Company, etc.—Continued.

Street or avenue occupied.	Between what points.	Character of track.	Under what authority occupied.
P street, north, and West street, Georgetown, now P street.	From Du Pont Circle to High (now Thirty-second) street.	Double to Twenty-eighth street, single to Thirty-second street.	Under authority of the act of the assembly approved January 19, 1872, above referred to, incorporating the Union Railroad Company, to whose rights and privileges this company succeeded.
High (now Thirty-second) street.	From West (now P) street to Third (now P) street.	Single ..	
Third (now P) street.	From High (now Thirty-second) street to Fayette (now Thirty-fifth) street.	Single ..	So much of the road as is described in the lines inclosed in brackets was laid under the authority of the act of the legislative assembly, approved January 19, 1872, above referred to, to whose rights this company succeeded.
Fayette (now Thirty-fifth) street.	From Third (now P) street to Second (now O) street.	Single ..	
Second (now O) street.	From Fayette (now Thirty-fifth) street to High (now Thirty-second) street.	Single ..	
High (now Thirty-second) street.	From Second (now O) street to Dumbarton avenue.	Single ..	
Dumbarton avenue.	From High (now Thirty-second) street to Montgomery (now Twenty-eighth) street.	Single	The road on Dumbarton avenue and Montgomery street was laid, as the present officers of the company are informed, under the authority or by the permission of the Board of Public Works, and to connect the track on West street with that on Second street.
• Montgomery (now Twenty-eighth) street.	From Dumbarton avenue to West (now P) street.	Single	
Four-and-a-half street.	From O street, south, to Missouri avenue.	Double ...	Under the authority of the act of Congress heretofore referred to, amending the original charter of the company.
Ninth street, west.	From B street, north, to M street, north.	Double ...	Under the authority of the act of Congress, heretofore referred to, amending the original charter of the company.
The road on Four-and-a-half street is connected with the road on Ninth street by a double track cross-road running along Missouri avenue and B street, north, to Ninth street.			
This was built by the direction of the authorities of the District, as the present officers of the company are informed, to serve in the place and stead of a road running along Four-and-a-half street to the tracks of the company in front of the court-house and along D street, north, and to avoid again crossing Pennsylvania avenue, to which crossing the authorities of the District strenuously objected.			
Ninth street, west (C).	From M street, north, to Boundary street.	Double ...	The road described in the lines inclosed in brackets was built to reach the company's stables, on Seventh street, under the authority conferred by section 10 of the act of incorporation.
Boundary street, north.	From Ninth street, west, to Seventh street, west.	Double ...	
Seventh street, west.	From the intersection of Boundary and Seventh streets, along Seventh street to the intersection of Seventh street with the road leading to Rock Creek Church.	Single	Under the authority of the act of the legislative assembly of the District of Columbia approved January 19, 1872 (acts of the first legislative assembly, special session, II, Chap. XXXIII), incorporating the Boundary and Silver Spring Railway Company, to the rights of which company this company succeeded.

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LETTER OF THE ATTORNEY FOR THE DISTRICT OF COLUMBIA (RIDDLE) TOUCHING
LICENSE TAX ON STREET CARS, AND ADDRESSED TO THE COMMISSIONERS.

OFFICE OF THE ATTORNEY OF THE DISTRICT OF COLUMBIA,
Washington, November 16, 1887

GENTLEMEN: Under paragraph 21, section 26, of the District act of August 23, 1871, we are entitled to a license tax of \$6 on each street railroad car; your books must show what is due. I have a test case in the general term to establish the validity of this tax, and am certain to gain it.

It is the precise question settled by the general term in favor of the District in the gas company case at the general term of May, 1880. The table exhibited to me yesterday correctly sets out the liability of the street railroads for work and labor done by the District.

The Park and Connecticut Avenue Company is lost in the Metropolitan, and can have no standing in a report. If it is so placed it misleads strangers.

The case against the Columbia, which, of course, will go for the District, I have had ready for trial for eighteen months and more. Some sufficient reason for laying over has always been found for the defendant. It will *soon* be tried.

The case against the Metropolitan is No. 266, Supreme Court United States.

That against the Washington and Georgetown Railroad 470 *id.*

I hope to reach the first this term, when the court will advance the other and hear them together.

In reference to the general taxes standing on the District books against the railroad companies, I unqualifiedly recommend that a Board order be made canceling them all on the books as unauthorized by law, and that they be canceled. You have my opinion of some years ago, notwithstanding which it came to Mr. Davis as late as the last of October ultimo, who returned the papers, with an opinion concurring, on the 29th of that month, a copy of which find herewith from our press copy.

This covers the points made to me yesterday, and not receiving your memorandum of them, I dispose of them thus summarily.

Respectfully,

A. G. RIDDLE,
Attorney.

Hon. WILLIAM B. WEBB, *President.*

P. S.—There is an old case by the Washington and Georgetown Railroad Company to restrain the District from the collection of that old tax, and there is some issue of fact made up. I see no profit in defending that or trying to.

R.

OPINION OF THE SUPREME COURT OF THE UNITED STATES IN THE CASE OF JAMES
B. EDMONDS ET AL., COMMISSIONERS OF THE DISTRICT OF COLUMBIA, VS. THE
BALTIMORE AND POTOMAC RAILROAD COMPANY.

SUPREME COURT OF THE UNITED STATES.

No. 1283.—OCTOBER TERM, 1884.

JAMES B. EDMONDS, JOSEPH R. WEST, AND GARRETT J.
Lydecker, Commissioners of the District of Columbia,
appellants.

vs.

THE BALTIMORE AND POTOMAC RAILROAD COMPANY.

} Appeal from the supreme
court of the District of
Columbia.

[April 20, 1885.]

Mr. Justice Miller delivered the opinion of the court.

This is an appeal from the supreme court of the District of Columbia.

The railroad company has constructed its road from Baltimore through the District of Columbia and through the city of Washington, to the Potomac River at Long Bridge, on which it crosses that river to the Virginia side. It has done this by virtue of several acts of Congress granting the necessary authority to do so. At the Washington end of the bridge it has purchased and now owns one of the squares of the city and part of another, numbered, in the division of the city into streets, squares, and lots, squares 233 and 267. The squares are divided by Fourteenth street run-

ning north and south, and square 267, on its south side, abuts on Maryland avenue, one of the streets of the city. At the junction of Maryland avenue, whose course is nearly east and west, and Fourteenth street, there is a considerable space of ground made by Water street, which follows the bank of the river, and the other two streets, which is a public highway, made by the union of all three streets at that point. A map or diagram found in the record, and which the reporter will copy, is necessary to a clear understanding of the controversy.

The railroad company alleges that its increased traffic requires in the city of Washington additional accommodations for receiving, storing, and transferring freight, and that it has purchased the two squares mentioned for that reason, and that it intends to build a freight depot on square 233, as being at once convenient for the company and more out of the way of the travel, current business, and residences of the citizens than any point within reasonable distance of the line of the road. As their road is at present located lawfully on Maryland avenue, along which it touches the city end of the bridge, this allegation is probable true.

In order, however, to reach square 233 with its trains, they must depart from Maryland avenue and cross square 267 and Fourteenth street, which lies between the two squares, or they must make a curve from the avenue around the south end of square 267 and reach square 233 by the use of the public highway made by the junction of Maryland avenue, Water street, and Fourteenth street, and in so doing depart from Maryland avenue. The company gave notice, as required by law, to appellants, who, as Commissioners of the District of Columbia, are charged with the care and protection of the streets and other highways of the city, that it intended to construct a lateral tract, which, leaving its main track on Maryland avenue at a point near its intersection with Thirteenth street, should cross square 267 from its east to its west side, and then crossing Fourteenth street, would reach its projected depot on square 233. The Commissioners refused consent to this, and fearing it would be attempted without such consent, they guarded the way across the street by police force for some time.

In this condition of affairs the railroad company filed its bill in chancery in the supreme court of the District of Columbia praying an injunction against the Commissioners, to prevent them from interfering with the exercise of the right which the company claimed of laying its track across Fourteenth street, and that court granted the injunction as prayed.

The appeal of the Commissioners from this decree brings the matter in issue before us for review. Neither the pleadings in the case, nor the relief sought by the bill, nor the decree of the court bring into question the right of the company to purchase squares 233 and 267, nor the right to erect on either of these a warehouse for the storage of freight. Nor does the question arise of their right to locate at that place such a depot as their business requires, nor to use it as such, if they have the right of access to it by using the streets and highways of the city for that purpose. This court does not, therefore, consider those questions, because the only point raised by the record is the right of the company to lay in or across the streets of the city their railroad track, and use it as a means of transit for its locomotives and cars, without any express authorization by act of Congress or the consent of any authority representing the city of Washington or the District of Columbia.

The assertion of the existence of such a right is, to say the least, somewhat novel. It is not known to any member of this court that any railroad company, whether its cars are propelled by steam or horse-power, has ever claimed to use the streets of an incorporated city or any part of them, without express authority from some legislative body or the authorities of the city government. It would be a strange grant of power which, authorizing a railroad company to enter or even pass through a city, should leave to the company the selection, not only of its route into or through the city, but even the streets and highways over which its tracks should be laid, subject only to its sense of its own convenience and that of the people of the city. Nor does the decision of a court of justice that the necessities of the company demand the use of these streets, and that the locality of the depot to which the track leads is selected with a due regard to the interests of the whole city, make this claim of power any the less remarkable. No judicial decision is cited in favor of such propositions.

The streets of Washington are largely used by street railroad companies whose tracks occupy their surface. There are some four or five of these companies, and their cars are propelled by horse-power and not by steam. They are not only a great convenience to the citizens, but they have become almost a public necessity. But it is not believed that a foot of all these tracks over all these streets exists otherwise than by virtue of an act of Congress directing specifically and minutely where this shall be done. And no power exists in one of these corporations to lay a track, however short, anywhere else.

The railroad company now asserting this right runs its cars from the east side of the city to the west, a distance of 2 miles or more, through a densely populated part of the city, over a track the location of every foot of which is prescribed with minute-

ness by acts of Congress. And its principal passenger depot, located several hundred yards from the main line of its road through the city, makes this deflection from that line solely by virtue of an express act of Congress, passed to enable the company to do so.

It is with these well-known facts before us, showing the care with which Congress has repeatedly exercised the power of granting, refusing, and regulating the use of the streets of Washington for railroads, that we approach the examination of the statute or statutes which are supposed to grant the enlarged power claimed by the Baltimore and Potomac Company in this instance.

The first and most important of these is the act of Congress of February 5, 1867 (14 Stat., 389).

After reciting that it is represented that the Baltimore and Potomac Railroad Company, incorporated by an act of the general assembly of Maryland, passed May 6, 1853, is desirous to construct a lateral branch from its road to the District of Columbia, it is enacted that "said company shall be, and they are hereby, authorized to extend into and within the District of Columbia a lateral branch, such as the said company shall construct or cause to be constructed, in a direction towards the said District, in connection with the railroad which they are about to locate and construct from the city of Baltimore to the Potomac River, in pursuance of their said act of incorporation; and the said Baltimore and Potomac Railroad Company are hereby authorized to exercise the same powers, rights, and privileges, and shall be subject to the same restrictions in the extension and construction of the said lateral railroad into and within the said District as they may exercise or are subject to under and by intent of their said charter or act of incorporation, in the extension and construction of any railroad within the State of Maryland, and shall be entitled to the same rights, compensations, benefits, and immunities in the use of the said road, and in regard thereto, as are provided in their said charter, except the right to construct any lateral road or roads within the said District from the said lateral branch or road hereby authorized, it being expressly understood that the said Baltimore and Potomac Railroad Company shall have power only to construct from the said Baltimore and Potomac Railroad one lateral road within the said District to some point or terminus within the city and county of Washington, to be determined in the manner hereinafter mentioned."

The third section of this act, after describing the care with which the company shall construct the road across any street or other way, adds: "But the said company, in passing into the District aforesaid, and in constructing the said road within the same, shall enter the city of Washington at such place, and shall pass along such public street or alley to such point or terminus within said city, as may be allowed by Congress, upon presentation of survey and map of proposed location of said road; provided that the level of said location within the said city shall conform to the present graduation of the streets, unless Congress shall authorize a different level."

This provision of the original act, under which the Baltimore and Potomac Railroad enters this city, has never been repealed or modified, as far as we are aware, and it fully asserts the purpose of Congress to retain in its own hands the right to the use of the streets of the city in regard to this company and its road as it has in regard to all others.

By another act, passed March 15, 1870 (16 U. S. S., 1), entitled as supplementary to the one above cited, it was declared "that said company might enter the city of Washington with their railroad, and construct the same within the limits of said city on and by whichever one of the two routes herein designated the said company may elect and determine; that is to say:

"First. Beginning at the intersection of Boundary street and North Carolina avenue; thence along said North Carolina avenue to south D street; thence along south D street, westwardly, to Virginia avenue; thence along Virginia avenue, northwestwardly, to the intersection of south C street and west Ninth street; or,

"Second. Beginning at some point on the northern shore of the Eastern Branch of the Potomac River, between south L and south M streets; thence westwardly between said streets to the intersection of Virginia avenue with south L and east Twelfth streets; thence along said Virginia avenue, northwestwardly, to south K street; thence along said south K street, westwardly, to south Fourth street; thence by a line curving to the right to the north bank of the canal; and thence along the said bank of the canal, northwestwardly, to Virginia avenue; thence along Virginia avenue, northwestwardly, to the intersection of south C and west Ninth streets."

Whether this was in accordance with a map or maps furnished by the company we are not informed; probably it was. But this is wholly immaterial, as this supplementary statute was clearly made to allow the use of these streets, as provided in section 3 of the original act. By another act, approved March 25, 1870, Congress authorized the company to make some changes in the line of its road between east Fourth street and the terminus at the junction of C street south and Ninth street west, which change, however, is described with the same particularity as the routes above

described, and by the same act the time for the completion of the road was extended. The next act of Congress, approved June 21, 1870 (16 U. S. S., 61), also entitled as amendatory of the act of July 5, 1867, authorizes the company to extend its road from the terminus at Ninth street, "*by way of Maryland avenue, conforming to its grade, to the viaduct over the Potomac River at the city of Washington known as the Long Bridge, and extend their tracks over said bridge and connect with any railroads constructed, or that may hereafter be constructed, in the State of Virginia.*" The act then delivers over Long Bridge to the company for its use as a railroad bridge, with conditions requiring it to be kept in good repair and open to free use as a public highway for all the people.

It is by virtue alone of the words of this statute, which we have cited in italics, that the road of the company is anywhere near the bridge, or near the *locus in quo* of the present controversy. It requires a larger measure of liberality in construing grants of the sovereign, and especially grants for the use of the streets of a city for a railroad, than we are accustomed to to discover in this any authority to depart from Maryland avenue on its way from Ninth street to the Long Bridge.

The company, having its road well under way, needed a passenger depot for its business, a need much more important than its present need of an additional freight depot. It did not, however, attempt to establish one under its general powers, but made application to Congress, which authorized its construction, and in doing so described its location with great precision, and the streets along which the track must go in departing from the right of way already granted.

This act of March 3, 1871, required the assent of the municipal authorities of the city of Washington for the erection of the depot, and that assent was given by a joint resolution of the board of aldermen and common council on March 9, 1871. And so necessary did the company deem the consent of Congress to this, or any other occupation of the streets or public property of the city, that it procured the passage of the act of May 21, 1872, ratifying the action of the city authorities in the matter, and setting out with greater detail the direction of the lateral track to the passenger depot and the streets over which it should go.

The title to the streets of Washington is in the United States, and not in the city or in the owners of the adjacent lots. (*Potomac S. B. Co. v. Upper Potomac Co.*, 109 U. S., 652.) It is, therefore, eminently proper that the right to use them for any other than the ordinary use of streets should proceed from Congress; and when we consider the express reservation of the power to Congress to allow this use in the original grant to the company, found in the third section of that act, and the detail and precision with which every foot of the track or tracks of the road has been prescribed by Congress, and every change which expediency required has been previously authorized by Congress, we can see no place for the assertion of any right in the company to make other tracks or changes in location of those now existing without an act giving the consent of that body.

In the face of these statutes it is hardly necessary to look into the language of the charter of the company by the legislature of Maryland to see if the powers thus conferred, and which are said to be adopted by the act of Congress, give this extraordinary power.

It is sufficient to say that we do not find in the Maryland charter of that company any power to use the streets of a city as an incident of its right to run to or from such city. That no such right is granted may be fairly inferred from the fact that the track of this road runs for 2 miles under the city of Baltimore in a tunnel built for that purpose, which must have delayed the completion of the road two or three years and cost a large sum of money. The company certainly would not have used this expensive underground roadway if anything in its charter authorized it to use the surface streets of the city.

And if the construction which counsel place upon that charter is sound, it is very certain that Congress did not intend extending that power of the company into the District of Columbia, and part with its own control of the streets and highways of Washington city, for such a power is in conflict with the express language of the act and with the constant practice under it.

We are referred by counsel to the Revised Statutes of the District of Columbia, chapter 18, concerning corporations. Clause 7 of that chapter provides for the voluntary association of individuals into corporations for building railroads in the District. It grants these corporations, when formed in compliance with the rules there prescribed, all the usual powers of such companies organized under State statutes and all that are necessary to the operation of a railroad, and the powers thus conferred are, in the main, very liberal.

There are two reasons, however, why these provisions can give no aid to the Baltimore and Potomac Company.

1. That corporation is organized under a special statute of the State of Maryland, and is a corporation of that State. The act of Congress of February 5, 1867, merely authorized that Maryland corporation *to extend its road* into the District of Columbia,

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and in defining the powers which the company should exercise in the District it referred to and adopted, in the main, the act of the State of Maryland granting the charter.

This was three years before the general incorporation law was enacted by Congress, and the company has never organized under that law, or professed to be governed by it, or asserted itself to be a corporation of the District of Columbia. Whether it could do this or not it is unnecessary to decide; but it is very plain that the power conferred by that act was designed only for corporations organized under it, and are not conferred on corporations created by States of the Union, governed by the laws of those States.

2. But if this were not so, and if this company could exercise all the powers which that statute grants to corporations organized under it, the statute itself shows, as all the legislation by Congress has shown, both before and since, that that body never intended to part with the right to designate the route of a railroad through the city, and on what streets its track should be located, and which streets it should use. This is plain from one of the closing sections of the chapter of the Revised Statutes on that subject, namely:

"SEC. 673. No railroad shall be built under the provisions of this chapter until the route and termini of such road have been approved by Congress."

This section of the general law for the voluntary organization of corporations for building railroads in the District of Columbia expresses the same idea and the same purpose that section 3 of the act authorizing the Baltimore and Potomac Company to enter the District does, namely, to retain in the hands of Congress the absolute control of the use of the streets of the city by any railroad company whatever.

We are of opinion that, when this company wishes to depart in any direction from the line of its present track as prescribed for it by acts of Congress, it must obtain permission to do so from that body. And that Congress, and not the court nor the company, is the judge of the expediency or the necessity of such change, and of the manner in which the public good requires it to be made and the safeguards which should accompany it.

The decree of the supreme court of the District of Columbia is reversed, and the case remanded, with directions to dismiss the bill.

True copy.

Test:

Clerk Supreme Court United States.

E.

ROCK CREEK TUNNEL.

DISTRICT OF COLUMBIA.

WASHINGTON, *December 1, 1887.*

GENTLEMEN: The following project for the construction of an artificial conduit to convey the waters of Rock Creek in tunnel between Lyons' Mill and Pennsylvania avenue, as a substitute for the present creek bed between the points named, has been prepared in compliance with the following resolution of the Board :

NOVEMBER 10, 1887.

Resolved, That the Engineer Commissioner is hereby requested to prepare for the consideration of this Board, in time for transmission to Congress with the annual report of the Commissioners for the fiscal year ended June 30, 1887, a project which estimates the cost and other data for a tunnel and other work to carry the waters of Rock Creek in the most direct way practicable from Lyons' Mill to the intersection of said creek with Pennsylvania avenue.

The limited time, as well as the lack of means for special investigation, have made it impracticable to secure the full and accurate data requisite for a final and satisfactory determination of the details of the project, and reliance has therefore been had upon such general information as was accessible.

Rock Creek traverses the District from its northern angle in a direction about south by west, following a tortuous and rocky channel, which is further obstructed by dams at several points. The length of the creek valley within the District is about 6 miles, and the length of the creek itself in that distance about $8\frac{1}{2}$ miles. Northward from the District the drainage area extends some 15 miles farther, and the creek has an additional length of about $17\frac{1}{2}$ miles. The axis of the drainage area therefore is about 21 miles in length and the creek about 26 miles, draining about 45 square miles of territory. The upper portion, lying exterior to the District, in the State of Maryland, is mainly composed of farm lands, with moderate slopes, which tend to restrict the velocity of the water in reaching the stream, and the more difficult portion of the valley within the District, although the slopes are steeper and at times precipitous, has a similar effect.

The lower portion of the creek constitutes the dividing line between the cities of Washington and Georgetown, and previous to the construction of the dam at the mouth, in connection with the service of the Chesapeake and Ohio Canal, of which it constitutes the terminus, the tide of the Potomac ebbcd and flowed for a considerable distance up the stream and the creek poured its free volume directly into the river.

The construction of the dam changed the character of the lower portion of the creek, converting it into a slack-water level and harbor for the canal, and made it a permanent recipient of all waste matters reaching the bed from the wash of the slopes, deposits upon its banks, or the more solid contents of the several sewers discharging into it.

In consequence of this the bed has been partially filled with deposits of this character, which the flow of the stream, owing to the absence of a scouring velocity at the bottom, is unable to remove, and complaints have been made both of the offensive character of the exhalations from the valley and of the unhealthfulness of the vicinity, due to this and cognate causes.

The creek is now spanned by three bridges, connecting Washington and Georgetown within the limits designated, viz, those on Pennsylvania avenue, at M street, and at P street, no one of which is suited to its work, whether in point of dimensions, plan of construction, or physical condition, and frequent representation has been made of the desirability of securing better and more numerous means of transit for the growing population of both cities.

In the betterment of the sanitary conditions it would probably be necessary, after removing the dam at the mouth of the creek, to condemn the valley as a park, and thereafter keep it in order at the public expense; this project involving the further necessity of constructing intercepting sewers to protect the water of the creek from pollution.

For improved communication it would be needful to reconstruct the present bridges, and add to their numbers such others as should be found advisable; but for the accomplishment of both objects at once, the obvious means is the construction of an artificial conduit to replace the present creek bed, as a preliminary to the subsequent obliteration of the valley by filling it up to the level of the adjacent grounds.

It is this proposition upon which the Board requests a project and estimates.

A glance at the map readily discloses what would be the site of a construction of this kind. The creek, after reaching Lyons' Mill at a point near the junction of Twenty-fifth and R streets, where they prolonged to intersect, has a southeastwardly course to O street east of Twenty-third, there bends sharply to the west and north to the intersection of Twenty-fifth and O, and thence in a nearly direct southwesterly course to the Potomac.

A tunnel from about Lyons' Mill due south on the line of Twenty-fifth street would cut off the sharp bend above referred to, and the continuation of this construction in the open valley and bordering the stream would conduct the waters of the creek out of sight between the terminal points and make it practicable to fill the valley to the level of its upper margins.

The project thus outlined, from an engineering point of view, is entirely feasible. The cost of the conduit will depend upon its dimensions and these in turn upon the volume of water to be provided for and the hydraulic gradient adopted; in other words, the slope which can be given to the water surface within the tunnel.

With regard to the volume of water, in the absence of exact information certain data must be assumed for the present, although careful measurements and observations should precede any actual constructions.

The total drainage area is approximately 45 square miles, over which no full record of rain-fall exists from which an average could be estimated, nor is it known that the maximum or mean discharge of the stream has at any time been accurately ascertained.

From general meteorological data it is safe to assume that the average maximum of rain-fall over the entire area will not exceed $4\frac{1}{2}$ inches in any twenty-four hours. This rate of fall may be exceeded for limited periods and special localities, as for example that noted by Professor

Henry in July, 1865, when the rain-gauge recorded a fall of 4.92 inches in three and one-half hours, but such an abnormal intensity may be regarded as purely local, and the general assumption for the entire area of the Rock Creek basin as well within the limits of safety and probably beyond what more exact information would adopt.

A fall of $4\frac{1}{2}$ inches in twenty-four hours over 45 square miles would amount to 470,448,000 cubic feet, or 5,445 cubic feet per second, and this would therefore represent the mean rate of fall for a storm of maximum severity extending over the entire region and for the entire day. Of this amount a certain proportion only could by possibility reach the point of discharge at any given time, and this proportion it is needful to estimate in order to determine what capacity the tunnel should have.

Observations of the regimen of Rock Creek tend to show that not less than two days are required to discharge the flood due to a storm, but these observations do not take account of the large losses due to evaporation, absorption, and subterraneous flow, and it will be entirely safe to assume as a low estimate that three days will be needed to discharge the equivalent of the total fall. This gives one-third of 5,445, or 1,815 cubic feet per second, as the mean maximum flow to provide for; but as the actual flow at a given time may exceed this, it may be assumed for the sake of security as double this amount, or 3,630 cubic feet; 4,000 cubic feet is therefore adopted as the greatest volume of water that the tunnel will be called upon to discharge.

The matter of gradient remains to be determined. The flood marks on the creek banks near Lyons' Mill indicate an elevation of about $13\frac{1}{2}$ feet above city datum, which is mean high water in the Potomac. With the slight deflection in the line of the tunnel this difference in elevation will give a gradient of .0029328, and a conduit of 240 square feet in area will discharge 4,458 cubic feet per second; or, assuming that the river surface is two feet above mean high water, the discharge will be 4,114 cubic feet per second, or slightly more than the basis of estimate.

It will be observed that this computation is based upon the removal of the dam. The retention of this and the resulting reduction of slope, by the elevation of the lower end of the tunnel, would involve a loss of head of 4.32 feet, which could be compensated for only by a large increase in the dimensions of the tunnel and corresponding costliness of construction.

Since, however, the removal of the dam is in any case essential to the sanitary betterments and improvement of the valley, it is assumed that the enhanced cost of tunnel construction need not be entertained.

The construction of the conduit involves the prolongation of the sewers now discharging into the creek above M street so as to intersect it, and the removal of the dam will require an abandonment of the present canal lock near the mouth of the creek, which should then be deepened by dredging so that boats may enter from the river.

The estimated cost of the project, as computed by Mr. McComb, superintendent of sewers, is as follows:

Excavation :		
78,000 cubic yards, at \$1.50		\$117, 000. 00
30,000 cubic yards, at \$1.		30, 000. 00
Total excavation		147, 000. 00
Construction, per lineal foot of conduit :		
.75 cubic yard rubble masonry, at \$8	\$6. 00	
6.098 cubic yards concrete masonry, at \$7	42. 69	
2.26 square yards stone paving, at \$2	4. 52	
Cost of conduit per foot	53. 21	
3,000 feet of conduit, at \$53.21		159, 630. 00

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Extension of sewers:

500 lineal feet of 10-foot sewer, at \$20	\$10,000.00	
950 lineal feet of 14-foot sewer, at \$30	28,500.00	
		\$38,500.00
For façades, etc., at tunnel entrances; damages to canal company, dredg- ing, and superintendence, say		20,000.00
Total estimate		365,130.00

Subsequent to the construction of the conduit, the filling of the valley between Lyons' Mill and Pennsylvania avenue will require about 2,000,000 cubic yards, and represent a superficies of about 41 acres. It may be assumed that this filling will get itself done in time by the deposit of surplus material from the grading of adjacent sites.

It is proper also to state that the filling of the valley will obviate the necessity of reconstructing the present bridges, which can not be deferred for many years longer. The cost of each of these, on the basis of an iron structure 60 feet in width upon suitable masonry abutments, will be, say, \$75,000 or \$80,000.

A discussion of the financial aspects of the matter or the methods by which the needful condemnation of the valley lands can best be provided for, is not required in the preparation of a report upon the engineering features of the project.

The accompanying blue print shows the plan of construction, with cross section and longitudinal elevation of conduit.

Respectfully,

WILLIAM LUDLOW,
Engineer Commissioner.

The BOARD OF COMMISSIONERS DISTRICT OF COLUMBIA.

F.

REPORT OF THE SECRETARY.

WASHINGTON, *August 31, 1887.*

GENTLEMEN: Pursuant to requirements of order of July 12, 1887, I have the honor to submit the following as my report for fiscal year ended June 30, 1887, with recommendations and an estimate for the support of this office for fiscal year ending June 30, 1889.

Estimates for support of executive office for fiscal year ending June 30, 1889.

Office.	Appropriation for 1888.	Estimated for 1889.
For two Commissioners, at \$5,000 each.....	\$10,000	\$10,000
For one Engineer Commissioner.....	924	924
One secretary.....	2,160	2,160
One clerk.....	1,500	1,700
One clerk.....	1,400	1,600
One clerk.....	1,200	1,400
One clerk.....	1,200	1,200
One messenger.....	600	600
One messenger.....	480	600
One driver.....	480	480
Contingent expenses.....	3,000	3,000
Total.....	22,944	23,664

OLD RECORD DIVISION.

The necessity for some system in the matter of keeping the records in the custody of the District government not needed for constant current use constantly becomes more pressing, and impels me to renew the recommendations I have made in previous reports, that a record division be established.

In my report to the Commissioners in 1884, I made the following statement and recommendation of the subject:

In my reports for the several preceding years, I have referred to the condition of certain records of the former governments in the District in custody of the Commissioners, and have recommended that provision be made for their orderly arrangement. While it is proper that such a work should be secondary to the demand for more pressing public objects, it should be resumed as soon as found expedient. The importance of these old records has been demonstrated several times recently, and notably in the case of the suit of the District of Columbia *v.* The Washington and Alexandria Railroad Company, which was decided in favor of the District of Columbia for more than \$150,000. In this case the production of sundry warrants of the late corporation of Washington were material to success, and they were found only after an extended search in the confused mass of old records, which might have been prolonged beyond the time when the evidence would have been of use, or might have been abandoned as hopeless. These old records have frequently furnished information essential to the establishment of valuable private and public rights.

It is impracticable to arrange and index them with the force of this office, as the clerks are not only required to keep up their current duties, but to largely assist in the clerical work of other departments of the District government.

Even if a certain amount of attention could be given to the work by the employes of this office it would not be an advisable course, for the reason I have heretofore given, that the work should have the undivided attention of those engaged upon it. In this connection I would suggest the establishment of a record department, where the records of every department of the District government, not needed for current use, may be filed in an orderly and systematic manner, convenient for reference and access.

The establishment of such a division is not only necessary for the convenience of access to these records, but also for their safe-keeping. There should be some one responsible for their security, through whom alone they should be accessible, and then only under a system of safeguards that would insure them against alteration, mutilation, or loss. At present it is feasible for any adroit person so disposed to tamper, without detection, with many of the records now exposed to the public inspection; and so many different officials and others have unrestricted access to them that it would be almost impossible in the event of the discovery of such abuse to fix upon any one the crime of perpetrating it, or the responsibility of permitting it to occur.

It is furthermore a source of frequent humiliation to this office to be obliged to reply to inquirers for data respecting the former municipal governments, which is supposed to be at the command of the Commissioners, that the records on the subject are in such confusion that it is impracticable to ascertain whether they contain the information desired.

It is practicable to organize such a department at once from the present force of officials. The work of the special assessment office is now so well in hand that the clerk in charge of that office, who has been temporarily placed in charge of the old miscellaneous records, and is well qualified for such an undertaking, could spare time to devise and get in working order some plan of organization that would meet the approval of the Commissioners.

The force at his disposal under present appropriations would not be sufficient to enable the best results to be obtained from such a department, but it would not be difficult to get authority from Congress to augment it to the necessary extent. Until then the available force from his own division might be supplemented to some extent from time to time from other offices. The new District building contains suitable fire-proof accommodations for such a department.

INDEX TO APPROPRIATIONS.

I submit again the index of appropriations made since 1878 for the support of the government of the District of Columbia, which has been partly rearranged, and to which have been added the appropriations made for the fiscal year ending June 30, 1888. It was originally prepared for my own convenience in the office, but as I have been informed by accounting officers of the District and the Treasury that it has a more extended usefulness, I submit it for publication in this report as a matter of general official information.

OFFICE FORCE.

I earnestly recommend an increase in the salaries of Messrs. Campbell, Williams, and Loving, who perform the clerical work of the office. Their duties are very exacting and laborious, and the compensation they receive is much less than is given for like duty in the departments of the General Government. They now receive \$1,500, \$1,400, and \$1,200, respectively, but should receive at least \$1,700, \$1,600, and

\$1,400. When it is considered that these gentlemen have no possibility of promotion, as the District clerical service is not systematically graded as to salaries, this appears the only way to reward faithful service, and thus stimulate employes to spirited endeavor. These gentlemen can, and doubtless would, work as efficiently hereafter as they have heretofore for the same compensation, but I suggest that it is no better policy in public than in private affairs to withhold the encouragement afforded by a substantial recognition of faithful service.

Messenger Harris deserves commendation for faithful service cheerfully and satisfactorily rendered. In addition to his services as messenger, he performs the janitor's work of the Commissioners' rooms, and occasionally is useful in minor clerical employments.

The compensation of Mr. Darneille is also inadequate to the character of service he renders. If his time were wholly engaged in the duties as a messenger, his pay would not be as large as that given to messengers in the departments of the General Government, who, I may safely say, in no case are as actively employed during office hours as the messengers of this office, but who receive from \$600 to \$720 per annum. He not only responds to demands upon him for messenger duty, but renders efficient aid on the type-writer, and in other minor clerical duties, and should receive at least \$600.

The calls upon the office force are so varied, and occasionally so urgent, that at times every available agent must be employed without regard to the duties they are specifically appointed to perform.

Mr. Fletcher, the driver, also deserves mention for obliging and faithful service and exemplary personal conduct.

Lest the omission of a reference here to Mr. Matthews, whose name appears on the rolls of this office as a clerk, might be construed to his disparagement, I will state that as his work consists mainly in supervising the janitors of the public schools, immediately under the direction of Commissioner Webb, I know little respecting his merits except through general repute, which is very creditable to him.

INDEX TO MUNICIPAL LAWS.

While it is very desirable that all the laws in force in the District should be codified, the omission of Congress to act conclusively on the subject renders the attainment of that object a matter of such embarrassing uncertainty that other means of convenient reference to the municipal laws at least should be immediately provided. The compilation of District municipal laws, which was projected and has been nearly completed by J. Q. Kern, esq., is a work of such great merit in design and execution, that in my judgment it offers the most promising prospect of getting a municipal code for the District. While it may not be a code of perfect municipal laws, it is probably as nearly a perfect arrangement of the District municipal laws now in existence as human ingenuity can devise for convenience of reference. It could be readily amended hereafter to any extent that might be found necessary to cure existing defects or meet new demands.

Pending the action of Congress on this subject, the necessity for a code could be materially obviated, so far as the administration of the municipal laws and ordinances is concerned, by a suitable index which could be made at a moderate expense. An index of the laws of Congress affecting the District, passed since 1873, has been prepared in this office and kept up to date. It is practically indispensable, and

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suggests the great advantage that would result from the compilation of an index of all the enactments affecting the District government.

I therefore recommend that an appropriation of \$1,000, to cover the cost of the work, be requested, so that in case Congress should again omit to adopt any of the codes or compilations that have been prepared, the Commissioners may avail themselves of the measurable relief that such an index would afford.

Very respectfully,

WILLIAM TINDALL,
Secretary, Board Commissioners, District Columbia

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

F 1.—INDEX TO APPROPRIATIONS.

Index to appropriations for support of the government of the District of Columbia for fiscal years from 1878 to 1888, inclusive.

NOTE.—The column to left of "Year" column contains details, the aggregates of which are included in column headed "Amount."

Object.	Year.	Amount.	Vol.	Page.
Advertising, general.....\$7, 000. 00	1879		20	208, 416
Do.....7, 000. 00	1880		20	409
Do.....7, 000. 00	1881		21	162
Do. (deficiency).....69. 60	1881		23	251
Do.....5, 000. 00	1882		21	465
Do.....5, 000. 00	1883		22	142
Do.....4, 000. 00	1884		22	469
Do. (deficiency).....4, 000. 00	1885		23	130
Do.....1, 009. 30	1885		24	264
Do.....4, 000. 00	1886		23	318
Do.....3, 000. 00	1887		24	136
Do.....3, 000. 00	1888		24	578
Alleys, cleaning.....	1879	\$7, 500. 00	20	208, 416
Do.....	1880	7, 500. 00	20	409
Do.....	1881	8, 500. 00	21	159
Do.....	1882	6, 500. 00	21	462
Do.....	1883	7, 500. 00	22	139
Do.....	1884	7, 500. 00	22	466
Do.....	1885	10, 000. 00	23	127
Do. (See Streets and avenues, sweeping, cleaning, etc.).....	1886	10, 000. 00	23	315
Do. (See Streets, avenues, and alleys, sprinkling, etc.).....	1887			
Alleys, payment of ground condemned for.....	1888			
Alleys, current repairs of. (See Streets, avenues, and alleys, current repairs to.).....	1881	27, 497. 73	21	162
Almshouse, Georgetown.....	1879	1, 800. 00	20	208, 416
Do.....	1880	1, 800. 00	20	404
Do.....	1881	1, 800. 00	21	156
Do.....	1882	1, 800. 00	21	459
Do.....	1883	1, 800. 00	22	136
Do.....	1884	1, 800. 00	22	464
Do.....	1885	1, 800. 00	23	126
Do. (memorandum discontinued after this year).....	1886	1, 800. 00	23	314
Aqueduct, Washington. (See Washington Aqueduct).....	1887	1, 800. 00	24	133
Aqueduct, Washington, extension of. (See Water supply of city of Washington, extension of.).....				
Assessments, general.....	1879	10, 000. 00	20	208, 416
Do. (deficiency).....	1883	8, 479. 00	23	252
Do. (deficiency).....	1883	5, 104. 00	23	455
Do.....	1886	15, 000. 00	23	313
Assessments, special. (See Special assessments.).....				
Assessments, superintendent of. (See Assessor's office.).....				
Assessor's office:				
{ Treasurer's office.....	1879	4, 900. 00	20	208, 416
{ Assessor's office (excluding new assessment).....	1879	11, 000. 00	20	208, 416
{ Superintendent of assessments' office.....	1879	9, 420. 00	20	208, 416
{ Treasurer's office.....	1880	5, 300. 00	20	405
{ Assessor's office.....	1880	7, 250. 00	20	406
{ Superintendent of assessments' office.....	1880	7, 800. 00	20	405

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Assessor's office—Continued.				
Treasurer and assessor's office (including \$3,000 for sub map) ..	1881	\$22,900.00	21	157
Do. (deficiency)	1881	82.43	23	251
Assessor's office (including special assessment clerk)	1882	18,000.00	21	460
Do. (deficiency)	1882	1,000.00	22	273
Do. (deficiency)	1882	150.00	22	273
Do. (including special assessment clerk)	1883	17,500.00	22	138
Do. (deficiency)	1883	458.53	23	252
Do. (disallowed salaries allowed)	1883	-----	22	586
Do	1884	12,600.00	22	462
Do. (deficiency)	1884	135.00	23	253
Do	1885	13,600.00	23	123
Do. (deficiency)	1885	550.00	23	454
Do. (deficiency)	1885	39.32	24	263
Do	1886	13,600.00	23	311
Do	1887	14,600.00	24	130
Do. (including special assessment clerk)	1888	16,300.00	24	571
Association for Works of Mercy (building)	1887	5,000.00	24	134
Do	1888	3,600.00	24	579
Asylum, Washington. (See Washington Asylum.)				
Attorney's office	1879	10,000.00	20	208, 416
Do	1880	9,000.00	20	405
Do	1881	9,000.00	21	158
Do	1882	8,812.00	21	461
Do. (deficiency)	1882	33.60	22	591
Do	1883	8,812.00	22	138
Do	1884	8,812.00	22	463
Do	1885	8,612.00	23	124
Do	1886	8,712.00	23	311
Do	1887	8,700.00	24	130
Do	1888	9,000.00	24	571
Auditor's office (excluding special assessment office <i>q. v.</i>)	1879	12,560.00	20	208, 416
Do. (excluding special assessment office, <i>q. v.</i>)	1880	12,560.00	20	405
Do	1881	13,000.00	21	157
Do	1882	12,800.00	21	460
Do	1883	12,900.00	22	137
Do	1884	12,700.00	22	462
Do	1884	2,500.00	22	462
Do. (temporary clerks)	1884	143.96	23	454
Do. (deficiency)	1885	16,500.00	23	123
Do	1885	143.96	23	124
Do. (temporary clerks)	1886	16,500.00	23	311
Do	1887	16,500.00	24	130
Do	1888	16,500.00	24	571
Do	1879	65,781.00	20	208, 416
Avenues and streets	1880	100,000.00	20	403
Do				
Balances of appropriation unexpended applicable to payment of debt for completion of sewerage			23	62
Basin Rock Creek. (See Sewers, tidal)			23	315
Bonds, 3.65s, permanent provision for			20	410
Bonds, Washington School, redemption of	1882	70,630.47	21	465
Bonds, interest on. (See Interest.)				
Boss, Charles and John Kane, medical attendance to (deficiency) ..	1882	97.75	23	251
Bridges, Anacostia, Benning's, and Chain	1879	9,200.00	20	208, 416
Do	1880	10,200.00	20	403
Do	1881	11,500.00	21	156
Do	1882	2,000.00	21	458
Do	1883	2,000.00	22	136
Do	1884	2,000.00	22	464
Do	1885	2,000.00	23	125
Do	1886	3,380.00	23	313
Do	1887	2,660.00	24	132
Do. (See Bridges, construction and repairs of, and Bridges, ordinary care of, for 1888 <i>et seq.</i>)				
Bridges, construction and repair of	1888	9,500.00	24	573
Bridges, ordinary care of	1888	2,500.00	24	573
Bridge over Potomac at Georgetown	1887	240,000.00	24	85
Bridge over Potomac at Three Sisters (not used)	1887	220,000.00	24	85
Bridges under Commissioner. (See Streets, alleys, and roads)	1879	-----	20	208, 416
Do	1880	1,000.00	20	403
Do	1881	-----	21	159
Do. (See County roads)	1882	500.00	21	458
Do	1883	10,700.00	22	136
Do	1884	1,500.00	22	464
Do	1885	500.00	23	125
Do	1886	6,000.00	23	313
Do	1887	10,000.00	24	132
Do. (See Bridges, construction and repair of, and Bridges, ordinary care of, for 1888 <i>et seq.</i>)				

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Bridge over James Creek Canal at M street.....	1883	\$4,656.76	22	136
Bridge over Rock Creek at M street.....	1881	6,000.00	21	156
Buildings, inspector of, office of (excluding contingent expenses):				
Do.....	1879	\$5,380.00	20	208, 416
Do.....	1880	5,380.00	20	405
Do.....	1881	5,380.00	21	158
Do. (deficiency).....	1881	6.00	23	251
Do.....	1882	5,580.00	21	461
Do.....	1883	5,580.00	22	138
Do.....	1884	6,260.00	22	463
Do.....	1885	6,260.00	23	124
Do.....	1886	6,460.00	23	312
Do.....	1887	6,460.00	24	131
Do.....	1888	6,460.00	24	572
Buildings, erection and repairs of. (See under title of office or institution for which building is provided.)				
Buildings, plans of, approval of. (See each appropriation, buildings.)				
Canal, James Creek, dredging.....	1882	5,000.00	21	458
Canal, south of Capitol, filling of.....	1878	15,000.00	20	250
Do.....	1879	15,000.00	20	488
Do.....	1880	20,000.00	21	300
Do.....	1881	20,000.00	21	515
Do.....	1882	20,114.00	22	379
Canal, B street to deep water.....	1881	18,600.00	21	156
Cemetery Holmead. (See Holmead Cemetery.)				
Certificates, sewer, redemption of.....	1886	366.96	23	313
Checks, printing. (Included in miscellaneous expenses.)				
Do.....	1880		20	409
Do.....	1881		21	162
Do. (deficiency).....	1882		21	465
Do.....	1883		22	142
Do.....	1884		22	469
Do.....	1885		23	130
Do.....	1886		23	318
Do.....	1887		24	137
Do.....	1888		24	578
Children's Hospital.....	1879	5,000.00	20	208, 416
Do. (building).....	1879	10,000.00	20	208, 416
Do.....	1880	5,000.00	20	404
Do.....	1881	5,000.00	21	157
Do.....	1882	5,000.00	21	460
Do.....	1883	5,000.00	22	137
Do.....	1884	5,000.00	22	465
Do.....	1885	5,000.00	23	126
Do.....	1886	5,000.00	23	314
Do.....	1887	5,000.00	24	133
Do.....	1888	5,000.00	24	579
Church Orphanage.....	1884	1,500.00	22	465
Do.....	1885	1,500.00	23	126
Do.....	1886	1,500.00	23	315
Do.....	1887	1,500.00	23	133
Do.....	1888	1,500.00	24	579
Collector of taxes' office.....	1879	6,000.00	24	579
Do.....	1880	15,500.00	20	208, 416
Do.....	1881	13,800.00	20	405
Do.....	1882	11,500.00	21	158
Do.....	1883	10,000.00	21	461
Do. (including special assessment clerk).....	1884	13,000.00	22	138
Do. (including special assessment clerk).....	1885	17,300.00	22	462
Do. (including special assessment clerk).....	1886	17,300.00	23	123
Do. (including special assessment clerk).....	1887	17,300.00	23	311
Do. (including special assessment clerk).....	1888	19,200.00	24	130
Colored Women and Children, National Association for Relief of.....	1879	16,500.00	24	571
Do.....	1880	5,000.00	20	208, 416
Do.....	1881	6,500.00	20	404
Do.....	1882	6,500.00	21	157
Do.....	1883	6,500.00	21	460
Do. (building).....	1884	7,000.00	22	137
Do.....	1884	20,000.00	22	465
Do. (furniture and heating).....	1885	7,000.00	23	126
Do.....	1886	2,000.00	23	126
Do. (building).....	1886	6,500.00	23	314
Do.....	1887	18,000.00	23	315
Do. (furniture).....	1887	6,500.00	24	133
Do.....	1888	2,500.00	24	133
Columbia Hospital for Women.....	1879	7,000.00	24	579
Do.....	1880	12,000.00	20	208, 416
Do.....	1880	12,000.00	20	404

Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

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Object.	Year.	Amount.	Vol.	Page.	Page.
Columbia Hospital for Women.....	1881	\$15,000.00	21	157	
Do. (cottages)	1881	3,000.00	21	157	
Do	1882	15,000.00	21	459	
Do. (furnishing cottages)	1882	800.00	21	459	208, 416
Do	1883	15,000.00	22	137	
Do	1884	15,000.00	22	465	208, 416
Do. (arrears of taxes)	1884	5,320.53	23	253	
Do	1885	15,000.00	23	126	409
Do	1886	15,000.00	23	314	467
Do	1887	15,000.00	24	133	
Do	1888	15,000.00	24	579	128
Connelly, John, relief of.....	1884	91.80	23	531	
Contingent expenses (general)	1880	20,000.00	20	410	135
Do	1881	20,000.00	21	162	
Do	1882	15,000.00	21	466	
Do	1883	10,000.00	22	143	
Do	1884	10,000.00	22	469	
Do	1885	5,000.00	23	131	
Do	1886	5,000.00	23	319	273
Do	1887	5,000.00	24	137	140
Do. (See Emergency fund, for this and after years)	1888				467
Coroner's office	1879	2,500.00	20	208, 416	128
Do	1880	2,500.00	20	405	316
Do. (deficiency)	1880	748.00	21	253	135
Do	1881	2,450.00	21	158	577
Do. (deficiency)	1881	96.00	22	591	
Do	1882	2,500.00	21	461	
Do	1883	2,500.00	22	138	208, 416
Do	1884	2,500.00	22	463	467
Do	1885	2,500.00	23	124	467
Do	1886	2,500.00	23	312	129
Do	1887	2,500.00	24	131	128
Do	1888	2,650.00	24	572	208, 416
Court of Claims. (See Referees, etc., suits, etc.)	1879	18,500.00	20	208, 416	409
Courts	1880	18,500.00	20	409	272
Do	1880	3,500.00	21	253	161
Do. (deficiency)	1881	16,818.00	21	161	463
Do	1882	16,818.00	21	463	140
Do	1883	15,418.00	22	141	467
Do	1883	15.00	24	264	128
Do. (deficiency)	1883	311.00	23	252	816
Do. (deficiency)	1883	400.00	22	586	135
Do. (deficiency)	1884	15,418.00	22	467	577
Do	1884	49.45	23	455	
Do. (deficiency)	1884	6,500.00	23	253	
Do. (deficiency)	1884	32.50	23	455	463
Do	1885	16,218.00	23	129	273
Do	1886	16,218.00	23	317	140
Do	1886	1,000.00	24	264	467
Do. (deficiency)	1887	16,218.00	24	135	128
Do	1888	18,724.00	24	577	316
Do	1879		20	208, 416	135
Damages	1880		20	409	577
Do	1881		21	162	416
Do	1882		21	465	409
Do	1882		22	273	161
Do. (deficiency)	1883		22	142	463
Do	1883	1,000.00	22	143	273
Do. (Boundary sewer)	1884		22	469	140
Do	1885		23	130	467
Do	1886		23	318	128
Do	1887		24	137	316
Do	1885	1,658.61	23	128	134
Darby, Rezin					577
Deficiency, general. (See General expenses.)	1883		22	586	416
Disallowances on account of salaries.....	1879	\$6,000.00	20	208, 416	409
District offices, rent of	1880	6,000.00	20	409	161
Do	1881	3,600.00	21	162	463
Do	1882	3,600.00	21	465	140
Do	1883	3,600.00	22	142	467
Do	1884	3,600.00	22	469	128
Do	1885	3,600.00	23	130	316
Do	1886	3,600.00	23	318	134
Do	1887	3,600.00	24	136	577
Do	1888	3,600.00	24	578	
Do	1882		21	466	
Drawbacks allowed	1883		22	144	
Do	1884		22	471	163

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Drawbacks allowed.....	1885		23	132
Do.....	1886		23	318
Do.....	1887		24	138
Do.....	1888		24	580
Electric lights.....\$10,000.00	1887		24	134
Do.....20,000.00	1888		24	574
Emergency fund. (See Contingent expenses; General, for prior years)	1888	\$5,000.00	24	580
Engineer's office, (exclusive of water department, g. v., lamp-lighters, and market-masters, but including all items of appropriation under this title for 1888.				
Do. (salaries).....	1879	76,578.85	20	208,416
Do. (contingent).....	1879	1,207.15	20	208,416
Do. (salaries).....	1880	67,860.85	20	406
Do. (contingent).....	1880	5,527.15	20	406
Do. (salaries).....	1881	57,251.00	21	159
Do. (contingent).....	1881	5,600.00	21	159
Do. (deficiency).....	1881	6.00	23	251
Do. (salaries).....	1882	58,225.00	21	461
Do. (contingent).....	1882	4,800.00	21	462
Do. (deficiency).....	1882	3.00	22	591
Do. (salaries).....	1883	55,425.00	22	138
Do. (contingent).....	1883	5,300.00	22	138
Do. (deficiency).....	1883	17.00	22	252
Do. (salaries).....	1884	51,950.00	22	463
Do. (contingent).....	1884	5,000.00	22	463
Do. (deficiency).....	1884	4.10	24	263
Do. (salaries).....	1885	54,650.00	23	124
Do. (contingent, including \$600 for gas and meters).....	1885	5,600.00	23	124
Do. (deficiency).....	1885	1.15	24	263
Do. (salaries).....	1886	55,390.00	23	312
Do. (contingent, including \$800 for gas and meters).....	1886	5,800.00	23	312
Do. (salaries).....	1887	55,390.00	24	131
Do. (contingent, including \$800 for gas and meters).....	1887	5,800.00	24	131
Do. (salaries).....	1888	55,390.00	24	572
Do. (contingent).....	1888	5,800.00	24	572
Engraving and Printing, Bureau of, sewerage.....\$1,200.00	1887		24	224
Do. (this appropriation is in lieu of that made in 1887).....	1888	2,443.30	24	512
Executive office.....	1879	21,000.00	20	208,416
Do. (deficiency).....	1879	1.27	22	272
Do.....	1880	21,000.00	20	404
Do. (deficiency).....	1880	18.70	22	272
Do.....	1881	20,040.00	21	157
Do. (deficiency).....	1881	1,667.11	22	273
Do. (deficiency).....	1882	20,040.00	21	460
Do.....	1882	341.71	23	454
Do. (deficiency).....	1882	28.93	22	591
Do.....	1883	21,240.00	22	137
Do. (deficiency).....	1884	21,141.50	22	462
Do.....	1884	40.00	24	263
Do. (deficiency).....	1885	21,244.00	23	123
Do.....	1886	21,244.00	23	311
Do. (deficiency).....	1887	22,444.00	24	130
Do.....	1888	22,944.00	24	571
Expenses, general. (See General expenses.)				
Feeble-minded children, education of.*				
Fire department.....				
Do.....	1879	151,800.00	20	208,416
Do. (deficiency).....	1880	105,700.00	20	408
Do.....	1880	416.38		
Do. (deficiency).....	1881	104,240.00	21	161
Do.....	1881	14.00		
Do. (deficiency).....	1881	742.94		
Do.....	1882	102,240.00	21	463
Do. (deficiency).....	1882	4,366.41		
Do.....	1883	99,140.00	22	140
Do. (deficiency).....	1883	589.35		
Do.....	1884	101,060.00	22	467
Do. (deficiency).....	1884	1,203.97		
Do.....	1885	120,888.00	23	128
Do. (deficiency).....	1886	108,150.00	23	316
Do.....	1887	116,420.00	24	135
Do. (deficiency).....	1888	109,920.00	24	576
Detailed as follows: Apparatus, new; Apparatus, repairs; Buildings, new; Buildings, repairs; Contingent expenses; Forage; Fuel; Horses; Hose; Lots; Salaries.				
Apparatus, new:				
Engine No. 1 (included in appropriation for \$48,000).....\$3,200.00	1879		20	208,416

* First Comptroller, United States Treasury, decided that no part of appropriation for this purpose is chargeable to District of Columbia September 26, 1887.

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Fire department—Continued.				
Apparatus new—Continued.				
Engine No. 2 (included in appropriation for \$48,000)	3,400.00	1879	20	208, 416
Truck A (included in appropriation for \$48,000)	1,749.00	1879	20	208, 416
Exchanged No. 4 for No. 4 Silsby (see Contingent expenses)	1,250.00	1880	20	409
Exchanged No. 5 for No. 5	3,000.00	1884	22	467
Exchanged No. 3 for No. 3	9,000.00	1885	23	128
Exchanged No. 1		1885		
Exchanged No. 2		1885		
New No. 1	4,500.00	1887	24	135
Apparatus, repairs				
Do	7,000.00	1879		
Do	5,000.00	1880		
Do	3,500.00	1881		
Do. (including repair of truck)	5,000.00	1882		
Do. (deficiency)	149.00	1882		
Do. (deficiency)	536.25	1882	22	273
Do	4,000.00	1883	22	140
Do	4,000.00	1884	22	467
Do	4,000.00	1885	23	128
Do	4,000.00	1886	23	316
Do. (including hose)	6,000.00	1887	24	135
Do	3,000.00	1888	24	577
Buildings, new:				
Trucks A and B (included in Contingent expenses)	34,389.00	1879	20	208, 416
No. 5 (proceeds of lots)		1882	21	467
No. 5 (Town Hall)	3,000.00	1884	22	467
No. 5 (in lieu of proceeds of lots)	1,658.61	1885	23	129
No. 7	10,000.00	1885	23	128
Buildings, repairs				
Do	1,000.00	1879	20	208, 416
Do	1,000.00	1880	20	409
Do. (deficiency)	16.38	1880	22	272
Do	1,000.00	1881	21	161
Do	1,000.00	1882	21	463
Do	1,500.00	1883	22	140
Do	500.00	1884	22	467
Do	750.00	1885	23	128
Do	1,000.00	1886	23	316
Do	3,000.00	1887	24	135
Do	2,000.00	1888	24	577
Forage (included in Contingent expenses)				
Do. (included in Contingent expenses)		1879		
Do. (included in Contingent expenses)		1880		
Do. (included in Contingent expenses)		1881		
Do	4,500.00	1882	21	463
Do. (deficiency)	2,082.26	1882	22	273
Do	7,000.00	1883	22	140
Do	5,500.00	1884	22	467
Do	6,000.00	1885	23	128
Do	5,500.00	1886	23	316
Do	5,500.00	1887	24	135
Do	5,500.00	1888	24	577
Fuel				
Do	500.00	1879	20	208, 416
Do	500.00	1880	20	409
Do	1,000.00	1881	21	161
Do	1,500.00	1882	21	463
Do. (deficiency)	319.75	1882	22	273
Do	1,500.00	1883	22	140
Do	2,000.00	1884	22	467
Do	2,000.00	1885	23	128
Do	2,000.00	1886	23	316
Do	2,000.00	1887	24	134
Do	2,000.00	1888	24	577
Horses				
Do	2,500.00	1879	20	208, 416
Do	2,000.00	1880	20	409
Do	2,000.00	1881	21	161
Do	2,000.00	1882	21	463
Do	2,000.00	1883	22	140
Do	2,000.00	1884	22	467
Do	2,500.00	1885	23	128
Do	2,500.00	1886	23	316
Do	2,500.00	1887	24	134
Do	2,000.00	1888	24	577
Hose (included in contingent expenses)				
Do		1879		
Do		1880		
Do		1881		
Do	\$2,500.00	1882	21	463

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.		Year.	Amount.	Vol.	Page.
Fire department—Continued.					
Hose (included in contingent expenses).....	\$2,500.00	1883	.....	22	140
Do.....	2,000.00	1884	.....	22	467
Do.....	2,000.00	1885	.....	23	128
Do.....	2,250.00	1886	.....	23	316
Do. (included in apparatus repairs).....		1887	.....	24	134
Do.....	2,500.00	1888	.....	24	577
Lots:					
Truck A.....	1,562.00	1879	.....	20	208, 416
Truck B.....	2,500.00	1879	.....	20	208, 416
No. 5. (See Buildings, new).....		1882	.....	21	467
Do.....		1885	.....	23	128
Salaries (including telegraph and telephone service).....	66,160.00	1879	.....	20	208, 416
Do.....	71,780.00	1880	.....	20	408
Do. (deficiency).....	400.00	1880	.....	21	253
Do. (including telephone and telegraph service).....	76,740.00	1881	.....	21	161
Do.....	75,740.00	1882	.....	21	463
Do.....	72,140.00	1883	.....	22	140
Do.....	72,060.00	1884	.....	22	467
Do.....	75,480.00	1885	.....	23	126
Do.....	83,400.00	1886	.....	23	318
Do.....	85,420.00	1887	.....	24	135
Do.....	85,420.00	1888	.....	24	577
Contingent expenses.....	27,840.00	1879	.....	20	208, 416
Do. (including \$1,250 exchange, No. 4, Silsby).....	25,420.00	1880	.....	20	409
Do.....	20,000.00	1881	.....	21	161
Do. (deficiency).....	14.00	1881	.....	23	251
Do. (deficiency).....	742.94	1881	.....	22	272
Do.....	10,000.00	1882	.....	21	463
Do. (deficiency).....	165.66	1882	.....	22	591
Do. (deficiency).....	149.00	1882	.....	23	251
Do. (deficiency).....	97.75	1882	.....	23	251
Do. (deficiency).....	866.74	1882	.....	22	273
Do.....	8,500.00	1883	.....	22	140
Do. (deficiency).....	589.35	1883	.....	23	252
Do.....	7,000.00	1884	.....	22	467
Do. (deficiency).....	1,200.00	1884	.....	23	253
Do. (deficiency).....	3.97	1884	.....	23	455
Do.....	7,500.00	1885	.....	23	128
Do.....	7,500.00	1886	.....	23	316
Do.....	7,500.00	1887	.....	24	135
Do.....	7,500.00	1888	.....	24	577
Fire-escapes in schools.....	10,000.00	1883	.....	22	142
Do.....	6,000.00	1888	.....	24	576
Foundlings Washington Hospital for (building).....		1887	\$3,500.00	24	133
Fourteenth street road.....		1883	6,000.00	22	136
Fuel, ice, gas, etc.....		1879	3,000.00	20	208, 416
Do.....		1880	3,000.00	20	407
Do.....		1881	3,500.00	21	159
Do. (deficiency).....		1882	3,500.00	21	462
Do. (deficiency).....		1882	47.77	22	591
Do.....		1882	22.05	23	251
Do. (deficiency).....		1883	3,500.00	22	139
Do.....		1883	354.97	23	252
Do. (deficiency).....		1884	5,000.00	22	463
Do.....		1884	64.88	23	454
Do. (deficiency).....		1885	5,000.00	23	125
Do.....		1885	362.35	24	263
Do.....		1886	5,000.00	23	312
Do. (See Miscellaneous for years after 1887.).....		1887	5,000.00	24	131
Furniture. (See Contingent expenses of schools.).....					
Garbage, removal of.....		1879	11,796.00	20	208, 416
Do.....		1880	10,355.00	20	409
Do. (deficiency).....		1880	219.30	21	253
Do.....		1881	10,365.00	21	159
Do.....		1882	15,000.00	21	465
Do.....		1883	15,000.00	22	143
Do.....		1884	15,000.00	22	469
Do.....		1885	15,000.00	23	130
Do.....		1886	15,000.00	23	318
Do.....		1887	15,000.00	24	137
Gas governors (deficiency).....		1888	15,000.00	24	577
Gas and meters, inspector and assist. inspector of.....	\$3,000.00	1882	500.00	22	273
Do.....	3,000.00	1879	.....	20	208, 416
Do.....	3,000.00	1880	.....	20	406
Do. (inspector) (assist inspector abolished).....	3,000.00	1881		21	158
Do.....	2,000.00	1882		21	461
Do.....	2,000.00	1883		22	138
Do.....		1884		22	463

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.		Year.	Amount.	Vol.	Page.
Gas and meters (inspector) (assistant inspector abolished).....	\$2,000.00	1885	.....	23	124
Do. (laboratory expenses).....	600.00	1885	.....	23	124
Do. (laboratory expenses; deficiency).....	1.15	1885	.....	24	263
Do. (inspector of).....	2,000.00	1886	.....	23	312
Do. (laboratory expenses).....	800.00	1886	.....	23	312
Do. (inspector of).....	2,000.00	1887	.....	24	131
Do. (laboratory expenses).....	800.00	1887	.....	24	131
Do. (inspector of).....	2,000.00	1888	.....	24	572
Do. (laboratory expenses).....	800.00	1888	.....	24	572
Gas meters, superintendent of. (Included in Engineer's office.)					
General expenses. (This is the title of the appropriation for 1879, the items of which are set out in book of estimates for that year).....	1,250,000.00	1879	.....	30	208
Do.....	466,533.00	1879	.....	20	416
Do. (transfer from 1883 to 1882; deficiency)....	50,000.00	1882	.....	22	274
Do.....	4,950.00	1882	.....	22	591
German Orphan Asylum:					
Purchase of property.....		1881	\$10,000.00	21	157
Building.....		1883	5,000.00	22	137
Do. (appropriation of 1883 continued).....		1884	.....	22	465
Do. (appropriation of 1883, usable at the discretion of directors).....		1885	.....	23	126
Good Shepherd. House of, building.....		1887	5,000.00	24	133
Do.....		1888	3,000.00	24	579
Government Printing Office.....		1883	5,600.00	22	143
Water supply to.....		1884	3,500.00	22	470
Harbor-master.....	\$80.00	1879	.....	20	208, 416
Do.....	80.00	1880	.....	20	406
Do.....	80.00	1881	.....	21	158
Do.....	80.00	1882	.....	21	461
Do.....	80.00	1883	.....	22	138
Do.....	1,200.00	1884	.....	22	463
Do.....	1,200.00	1885	.....	23	124
Do.....	1,200.00	1886	.....	23	312
Do.....	1,200.00	1887	.....	24	131
Do.....	1,200.00	1888	.....	24	572
Harbor and river front.....		1884	2,500.00	24	574
Hay scales.....		1879	200.00	20	208, 416
Do.....		1880	200.00	20	400
Do.....		1881	200.00	21	162
Do.....		1882	500.00	21	465
Do.....		1883	500.00	22	142
Do.....		1884	500.00	22	469
Do.....		1885	500.00	23	130
Do.....		1886	500.00	23	318
Do.....		1887	500.00	24	136
Do.....		1888	500.00	24	574
Health Office, exclusive of removal of garbage, q. v.....		1879	22,000.00	20	208, 416
Do.....		1880	24,400.00	20	410
Do. (deficiency).....		1880	2,084.34	21	253
Do.....		1881	25,200.00	21	162
Do. (deficiency).....		1881	143.00	22	273
Do.....		1882	26,140.00	21	465
Do. (deficiency).....		1882	490.00	22	273
Do. (deficiency).....		1882	130.37	22	591
Do.....		1883	27,580.00	22	143
Do.....		1884	27,780.00	22	469
Do.....		1885	29,180.00	23	130
Do.....		1886	28,530.00	23	318
Do.....		1887	27,280.00	24	137
Do.....		1888	27,580.00	24	577
Holmead Cemetery (square 109), removal of bodies.....		1879	.....	20	353
Do.....do.....		1881	2,000.00	21	162
Do.....do.....		1882	1,000.00	21	465
Do.....		1885	.....	23	455
Do. (sale of).....	\$5,136.23	.....	.....	20	353
Do. (sale of).....		.....	.....	20	130
NOTE.—The work of removing these bodies was completed for this sum in addition to the \$3,000 heretofore appropriated. This amount was paid out of contingent fund of public schools, \$3,000 of which was refunded by deficiency appropriation. (See Eng. Rep. 1885, p. 272.)					
Homeopathic Hospital. (See National Homeopathic Hospital Association.)					
Hospital, pest.....		1886	600.00	23	318
House of Good Shepherd (see Good Shepherd, etc.).....		1887	.....	24	133
Howard University.....		1880	10,000.00	20	404
Improvements east of Capitol to be completed.....				22	464

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Improvements, repairs, etc., of streets. (See Streets; Sewers.)				
Inaugural ceremonies of 1885, to keep order during.....	1885	\$8,000.00	23	303
Industrial Home School.....	1879		20	208, 416
Do.....	1880	5,000.00	20	404
Do.....	1881	10,000.00	21	157
Do.....	1882	5,000.00	21	460
Do. (building).....	1882	5,000.00	21	460
Do.....	1883	5,000.00	22	137
Do.....	1884	10,000.00	22	465
Do.....	1885	12,500.00	23	126
Do.....	1886	12,000.00	23	315
Do. (building).....	1887	3,500.00	24	133
Do.....	1887	10,000.00	24	133
Do.....	1888	10,000.00	24	579
Insane, Government Hospital for.....	1879	17,000.00	20	208, 416
Do.....	1880		20	395
Do.....	1880	17,000.00	20	404
Do.....	1881	37,000.00	21	156
Do.....	1882	40,000.00	21	459
Do. (deficiency).....	1882	5,198.13	22	244
Do.....	1883	43,200.00	22	146
Do.....	1884	46,700.00	22	464
Do.....	1885	50,436.00	23	126
Do.....	1886	53,462.00	23	314
Do.....	1887	75,132.00	24	133
Do.....	1888	75,132.00	24	579
Inspectors on improvements. (See all annual appropriations for District of Columbia.)				
Insurance. (Included in fuel, ice, gas, etc.)				
Interest and sinking fund on 3.65 bonds, permanent provision for.			20	410
Interest and sinking fund (exclusive of water debt).....	1879	1,018,965.70	20	208, 416
Do. (exclusive of water debt).....	1880	1,155,583.55	20	410
Do. (deficiency; exclusive of water debt).....	1880	90.00	21	253
Do. (exclusive of water debt).....	1881	1,155,583.55	21	162
Do. (Linthicum loan, interest).....	1881	2,400.00	21	160
Do. (deficiency; exclusive of water debt).....	1881	162,169.93	21	322
Do. (exclusive of water debt).....	1882	1,213,947.97	21	466
Do. (Linthicum loan, redemption of).....	1882	40,000.00	21	466
Do.....	1883	1,213,947.97	22	143
Do. (for water-stock bonds).....	1883	44,610.00	22	144
Do.....	1884	1,213,947.97	22	469
Do. (for water-stock bonds).....	1884	44,610.00	22	470
Do. (for water-stock bonds).....	1885	1,213,947.97	23	130
Do. (account increase water supply).....	1885	44,610.00	23	131
Do.....	1885	30,000.00	23	132
Do. (for water-stock bonds).....	1886	1,213,947.97	23	319
Do. (account increase water supply).....	1886	44,610.00	23	319
Do.....	1886	55,047.27	23	319
Do. (for water-stock bonds).....	1887	1,213,947.97	24	137
Do. (account increase water supply).....	1887	44,610.00	24	137
Do.....	1887	57,239.02	24	137
Do. (for water-stock bonds).....	1888	1,213,947.97	24	578
Do. (account increase water supply).....	1888	44,610.00	24	580
Judgments.....	1888	76,655.69	24	580
Do. (deficiency).....	1879	25,000.00	20	208, 416
Do.....	1880	40,000.00	21	253
Do.....	1881	2,704.20	21	162
Do. (deficiency).....	1882	15,000.00	21	466
Do. (deficiency).....	1883	25,000.00	22	143
Do.....	1883	21,223.82	23	252
Judicial expenses.....	1885	2,214.41	23	455
Do. (deficiency).....	1886	16,762.73	24	264
Do.....	1879		20	208, 416
Do. (deficiency).....	1879	25.80	22	272
Do.....	1880	2,500.00	20	409
Do.....	1880	3,500.00	21	253
Do.....	1881	2,500.00	21	161
Do.....	1882	2,500.00	21	463
Do. (deficiency).....	1883	2,500.00	22	141
Do.....	1884	6,500.00	22	468
Do. (deficiency).....	1884	2,500.00	23	253
Do. (deficiency).....	1885	15.00	23	129
Do.....	1885	1,000.00	24	264
Do.....	1885	2,500.00	24	264
Do.....	1886	2,500.00	23	317
Kane, John, medical attendance to (deficiency). (See Boss, Charles.)	1887		24	136
	1888		24	577

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Lamps, lighting, repairs, etc., exclusive of superintendent of lamps	1879	\$135,200.00	20	208, 416
Do.....	1880	129,570.00	20	409
Do.....	1881	122,500.00	21	159
Do.....	1882	104,325.00	21	462
Do. (deficiency).....	1882	2,089.26	22	591
Do.....	1883	106,750.00	22	139
Do.....	1884	96,280.00	22	466
Do.....	1885	96,280.00	23	127
Do.....	1886	100,900.00	23	315
Do.....	1887	100,900.00	24	134
Do.....	1888	120,000.00	24	573
Lamps, superintendent of, may draw salary from both United States and District of Columbia.....	1882	.....	22	325
Laws of District of Columbia, revision of.....	1880	5,000.00	20	405
Linthicum loan, redemption of..... \$40,000.00	1882	.....	21	400
Do. (interest on)..... 2,400.00	1881	.....	21	160
Little Sisters of the Poor.....	1881	5,000.00	21	157
Do. (building).....	1885	25,000.00	23	222
MacNichol, Frank (deficiency).....	1882	50.00	23	251
Map of suburban property, District of Columbia..... \$3,000.00	1881	.....	21	158
Macadam roadways.....	1882	5,000.00	21	458
Do.....	1883	5,000.00	22	135
Markets, contingent expenses and repairs of.....	1879	5,425.00	20	208, 416
Do.....	1880	5,425.00	20	409
Do.....	1881	5,425.00	21	161
Do.....	1882	1,500.00	21	465
Do. (repairs of Georgetown Market).....	1882	3,000.00	21	405
Do.....	1883	1,500.00	22	142
Do. (included in fuel, ice, gas, etc.).....	1884	.....	22	463
Do. (deficiency, included in fuel, ice, etc.).....	1884	.....	23	454
Do. (included in fuel, ice, etc.).....	1885	.....	23	125
Do. (deficiency, included in fuel, ice, etc.).....	1885	.....	24	263
Do. (included in fuel, ice, gas, etc.).....	1886	.....	23	312
Do.....do.....	1887	.....	24	131
Do.....do.....	1888	800.00	24	572
Market masters.....	1879	4,950.00	20	208, 416
Do.....	1880	4,950.00	20	409
Do.....	1881	4,950.00	21	161
Do.....	1882	5,400.00	21	465
Do.....	1883	5,400.00	22	142
Do.....	1884	4,500.00	22	463
Do.....	1885	4,500.00	23	124
Do.....	1886	4,500.00	23	312
Do.....	1887	4,500.00	24	131
Do.....	1888	3,300.00	24	572
Marshal of United States for District of Columbia..... \$2,316.00	1879	.....	20	208, 416
Do..... 2,316.00	1880	.....	20	409
Do..... 2,500.00	1881	.....	21	161
Do..... 2,500.00	1882	.....	21	463
Do..... 2,000.00	1883	.....	22	141
Do. (deficiency)..... 311.00	1883	.....	23	252
Do..... 1,400.00	1884	.....	22	467
Do. (deficiency)..... 32.50	1884	.....	23	455
Do..... 1,400.00	1885	.....	23	129
Do..... 1,400.00	1886	.....	23	317
Do..... 1,400.00	1887	.....	24	135
Do..... 1,400.00	1888	.....	24	577
Mercy, Association for Works of. (See Associations, etc.)				
Miscellaneous expenses, including only rent of District offices, general advertising, checks, damages, and other items in appropriation for 1888.....	1879	18,564.00	20	208, 416
Do.....	1880	19,500.00	20	409
Do.....	1881	17,398.07	21	162
Do.....	1882	11,600.00	21	465
Do. (deficiency).....	1882	25.00	23	454
Do. (deficiency).....	1882	1,500.00	22	273
Do.....	1883	11,600.00	22	142
Do. (deficiency).....	1883	23.37	23	252
Do.....	1884	10,100.00	22	469
Do.....	1885	10,100.00	23	130
Do. (deficiency).....	1885	1,009.30	24	264
Do.....	1886	10,100.00	23	318
Do.....	1887	9,100.00	24	136
Do.....	1888	14,800.00	24	578
National Association for Relief of Colored Women and Children. (See Colored Women and Children, etc.)				
National Homeopathic Hospital Association. (See Homeopathic Hospital.)				

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Night schools. (See Schools, night.)				
O'Brien, M. T. (deficiency)	1882	\$50. 00	23	251
Offices, District, rent of. (See District offices.)				
Old record division	1881	2, 100. 00	21	157
Do	1882	2, 100. 00	21	460
Parking (exclusive of \$1,600 of salaries)	1879	15, 000. 00	20	208, 416
Do. (exclusive of \$1,600 of salaries)	1880	15, 000. 00	20	409
Do. (exclusive of \$1,920 of salaries)	1881	15, 320. 00	21	159
Do. (exclusive of \$1,900 of salaries)	1882	18, 000. 00	21	462
Do. (exclusive of \$1,900 of salaries)	1883	18, 000. 00	22	139
Do	1884	18, 000. 00	22	466
Do	1885	18, 000. 00	23	127
Do	1886	18, 000. 00	23	315
Do	1887	18, 000. 00	24	134
Do	1888	18, 000. 00	24	573
Paupers, transportation of	1879	2, 500. 00	20	208, 416
Do	1880	2, 500. 00	20	404
Do	1881	3, 500. 00	21	156
Do. (deficiency)	1881	7. 95	22	273
Do	1882	3, 000. 00	21	459
Do. (deficiency)	1882	72. 49	22	591
Do	1883	3, 000. 00	22	136
Do	1884	3, 000. 00	22	464
Do	1885	3, 000. 00	23	126
Do	1886	4, 000. 00	23	314
Do	1887	4, 000. 00	24	133
Do	1888	4, 000. 00	24	579
Pavements, concrete, repairs of	1879	18, 500. 00	20	208, 416
Do	1880	100, 000. 00	20	403
Do	1881	75, 000. 00	21	155
Do	1882	50, 000. 00	21	458
Do	1883	50, 000. 00	22	135
Do	1884	50, 000. 00	22	464
Do	1885	50, 000. 00	23	125
Do. (deficiency)	1885	23. 10	24	264
Do	1886	50, 000. 00	23	313
Do	1887	65, 000. 00	24	132
Do	1888	80, 000. 00	24	573
Pavements, replacement of, and work on sundry streets and avenues				
Do	1879	569, 000. 00	20	208, 416
Do	1880	250, 000. 00	20	403
Do. (deficiency)	1881	300, 000. 00	21	155
Do	1881	533. 19	22	273
Do. (deficiency)	1882	300, 000. 00	21	458
Do. (deficiency)	1882	3, 500. 00	22	591
Do	1882	160. 52	23	251
Do	1883	300, 000. 00	22	136
Do	1884	350, 000. 00	22	464
Do	1885	263, 000. 00	23	125
Do	1886	265, 000. 00	23	313
Do. (See Streets and avenues, improvement of, for 1888.)	1887	266, 000. 00	24	132
Pennsylvania avenue, at west front of Capitol Grounds	1879		20	226
Penny Lunch	1880	1, 500. 00	20	669
Permit work, material for	1879	11, 521. 00	20	208, 416
Do	1880	15, 000. 00	20	403
Do	1881	20, 000. 00	21	155
Do. (deficiency)	1882	20, 000. 00	21	458
Do	1883	20, 000. 00	22	135
Do	1883	34. 96	23	252
Do. (deficiency)	1884	30, 000. 00	22	464
Do	1885	50, 000. 00	23	125
Do	1885	177. 74	24	264
Do	1886	50, 000. 00	23	313
Do	1887	60, 000. 00	24	132
Do	1888	90, 000. 00	24	573
Phelps, Seth L. (deficiency)	1885	156. 50	23	455
Plumbing, inspector of	1882		21	461
Do	1883		22	138
Do	1884		22	463
Do	1885		23	124
Do	1886		23	312
Do	1887		24	131
Do	1885		24	572
Plumbing, assistant inspector of	1886		23	124
Do	1887		23	312
Do	1888		24	131
Do			24	572

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Police court (including all under head of "Courts," but "judicial expenses":)				
Building.....	1881	\$20,000.00	21	162
Repairs to building.....	1885	1,500.00	23	222
Do. (See Police; Buildings, repairs 1887.....)	1887			
Salaries and contingent.....	1879	\$16,000.00	20	208, 416
Do.....	1880	16,000.00	20	409
Do.....	1881	14,318.00	21	161
Do.....	1882	14,318.00	21	463
Do.....	1883	12,918.00	22	141
Do. (deficiency).....	1883	311.00	23	252
Do. (deficiency).....	1883	400.00	22	586
Do.....	1884	12,918.00	22	467
Do. (deficiency).....	1884	49.45	23	455
Do.....	1885	13,718.00	23	129
Do.....	1886	13,718.00	23	317
Do.....	1887	13,718.00	24	135
Do.....	1888	13,724.00	24	577
Police.....	1879	\$300,000.00	20	208, 416
Do. (deficiency).....	1879	50.85	23	454
Do.....	1880	302,859.00	20	408
Do. (deficiency).....	1880	45.40	22	272
Do.....	1881	300,180.00	21	161
Do. (deficiency).....	1881	586.34	22	272
Do.....	1882	347,930.28	21	463
Do. (deficiency).....	1882	1,224.00	22	273
Do. (deficiency).....	1882	700.00	22	591
Do.....	1883	301,980.00	22	140
Do. (deficiency).....	1883	525.52	23	252
Do. (deficiency).....	1883	500.00	22	586
Do.....	1884	301,560.00	22	467
Do.....	1885	342,100.00	23	128
Do. (deficiency).....	1885	440.00	23	455
Do.....	1886	342,320.00	23	316
Do. (deficiency).....	1886	1,397.18	24	263
Do.....	1887	344,780.00	24	135
Do.....	1888	350,560.00	24	576
Detailed as follows: Buildings and sites; Buildings, repairs; Fuel; Rent; Salaries; Contingent expenses; Signal system.				
Buildings and sites:				
First, Fourth, and Eighth precinct stations:				
Proceeds of lot 3, square 382.....	1882	\$38,668.10	{ 21	467
			{ 22	37
Lot 3, square 490.....	1882	3,075.84	{ 21	467
			{ 22	37
Lots 1 and 17, square 312.....	1882	5,071.82	{ 22	37
Lot S of square 181.....	1882	2,089.52	{ 21	467
			{ 22	37
Stable, Fourth precinct.....	1885	3,000.00	23	128
Second precinct station and site.....	1885	15,000.00	23	128
Sixth precinct station and site.....	1886	15,000.00	23	316
Sixth precinct (deficiency).....	1886	1,397.18	24	263
Stables, Second and Sixth precincts.....	1887	5,500.00	24	135
Cells, Third precinct.....	1887	600.00	24	135
Buildings, repairs.....	1879	1,200.00	20	208, 416
Do.....	1880	1,200.00	20	408
Do.....	1881	1,500.00	21	160
Do.....	1882	1,500.00	21	463
Do.....	1883	1,500.00	22	140
Do.....	1884	1,200.00	22	467
Do.....	1885	1,200.00	23	127
Do.....	1886	1,500.00	23	315
Do.....	1887	2,000.00	24	135
Do.....	1888	2,000.00	24	576
Fuel.....	1879	1,543.00	20	208, 416
Do.....	1880	1,543.00	20	408
Do.....	1881	1,500.00	21	161
Do.....	1882	1,500.00	21	463
Do.....	1883	1,500.00	22	140
Do. (deficiency).....	1883	500.00	22	586
Do.....	1884	1,500.00	22	467
Do.....	1885	2,000.00	23	128
Do.....	1886	2,000.00	23	316
Do.....	1887	2,000.00	24	135
Do.....	1888	2,000.00	24	576
Rent.....	1879	6,200.00	20	208, 416
Do.....	1880	6,200.00	20	408
Do.....	1881	5,960.00	21	161

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

EXPENSES OF GOVERNMENT OF DISTRICT OF COLUMBIA, ETC.—Cont'd.

		Year.	Amount.	Vol.	Page.
General expenses	\$5,960.00	1882	.....	21	463
Do.	5,960.00	1883	.....	22	140
Do.	2,920.00	1884	.....	22	467
Do.	3,020.00	1885	.....	23	128
Do.	2,160.00	1886	.....	23	316
Do.	1,200.00	1887	.....	24	135
Do.	1,200.00	1888	.....	24	576
Salaries	278,873.00	1879	.....	20	208, 416
Do. (free use of for furniture)	281,732.00	1880	.....	20	408
Do.	284,751.00	1881	.....	21	161
Do.	283,596.00	1882	.....	21	463
Do.	283,020.00	1883	.....	22	140
Do.	286,440.00	1884	.....	22	467
Do.	303,380.00	1885	.....	23	128
Do.	308,060.00	1886	.....	23	316
Do.	318,980.00	1887	.....	24	135
Do.	329,360.00	1888	.....	24	576
Contingent expenses	12,184.00	1879	.....	20	208, 416
Do. (deficiency)	50.85	1879	.....	23	454
Do.	12,184.00	1880	.....	20	408
Do. (deficiency)	45.40	1880	.....	22	272
Do.	6,469.00	1881	.....	21	161
Do. (deficiency)	586.34	1881	.....	22	272
Do.	6,469.00	1882	.....	21	463
Do. (deficiency)	700.00	1882	.....	22	591
Do. (deficiency)	1,224.00	1882	.....	22	273
Do.	10,000.00	1883	.....	22	140
Do. (deficiency)	525.52	1883	.....	22	252
Do.	9,500.00	1884	.....	22	467
Do.	9,500.00	1885	.....	23	128
Do. (deficiency)	440.00	1885	.....	23	455
Do.	11,000.00	1886	.....	23	316
Do.	10,000.00	1887	.....	24	135
Do.	11,500.00	1888	.....	24	576
Highway expenses	5,000.00	1885	.....	23	128
Do.	2,600.00	1886	.....	23	316
Do.	4,500.00	1887	.....	24	135
Do.	4,500.00	1888	.....	24	576
Poor relief		1878	\$5,000.00	20	250
Do.		1879	5,000.00	20	208, 416
Do.		1879	15,000.00	20	208, 416
Do.		1880	15,000.00	20	404
Do.		1881	10,000.00	21	157
Do.		1881	660.00	23	251
Do.		1882	15,000.00	21	459
Do.		1883	15,000.00	22	137
Do.		1884	15,000.00	22	465
Do.		1885	15,000.00	23	126
Do.		1886	15,000.00	23	314
Do.		1887	15,000.00	24	133
Do.		1888	15,000.00	24	579
Property (included in Poor relief of.)					
Property (also included in Engineer's office)	11,621.00	1881	.....	21	158
Property (also included in Engineer's office)	11,115.00	1882	.....	21	461
Property (See also Holmead Cemetery)	51,362.00	.....	.....	23, 20	130, 353
Do. (square 10)	38,668.10	.....	.....	22, 21	37, 467
Do. (square 10)	3,075.84	.....	.....	22, 21	37, 467
Do. (square 372)	5,071.82	.....	.....	22	37
Do. (square 10)		.....	.....	22, 21	37, 467
Do. (square 10)	2,089.52	.....	.....	22, 21	37, 467
Do. (square 6)		.....	.....	21, 23	467, 27
Do. (square 40 and 43, square 20)		.....	.....	21, 22	467, 38
Do. (square 108)		.....	.....	20, 22	408, 38
Do. (square 108)		.....	.....	21	467
Printing Office, Government, water supply to. (See Government Printing Office.)	7,452.00	.....	.....	21	467
Property yards, rent of (included in Contingent expenses of Engineer's office)					
Do.	300.00	1879	.....	20	208, 416
Do.	300.00	1880	.....	20	409
Do.	300.00	1881	.....	21	158
Do.	300.00	1882	.....	21	461
Do.	300.00	1883	.....	22	139
Do.	300.00	1884	.....	22	463
Do.	300.00	1885		23	124
Do.	300.00	1886		23	312
Do.	300.00	1887		24	131
Do.	300.00	1888		24	572

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Pumps.....	1879	\$2,500.00	20	208, 416
Do.....	1880	2,500.00	20	409
Do.....	1881	3,000.00	21	159
Do.....	1882	3,000.00	21	462
Do.....	1883	3,000.00	22	139
Do. (deficiency)	1883	7.08	23	252
Do.....	1884	3,000.00	23	466
Do.....	1885	3,000.00	23	127
Do.....	1886	3,000.00	23	315
Do.....	1887	3,000.00	24	134
Do.....	1888	3,000.00	24	574
Records, old. (See Old records.)				
Referees in the Court of Claims United States.....	1882	2,000.00	21	464
Reform School, including salaries and support	1879	20,000.00	20	208, 416
Do.....	1879	10,000.00	20	208, 416
Do.....	1880	20,000.00	20	404
Do. (improvements).....	1881	25,000.00	21	156
Do. (purchase of Peter farm).....	1881	8,500.00	21	156
Do. (salaries).....	1882	10,600.00	21	459
Do. (support)	1882	20,014.00	21	459
Do. (workshop and machinery; balance from Jay Cooke & Co.)	1882		21	459
Do. (support; deficiency)	1882	2,775.00	22	273
Do. (salaries).....	1883	10,936.00	22	137
Do. (support)	1883	27,014.00	22	137
Do. (salaries).....	1884	10,936.00	22	465
Do. (support)	1884	22,014.00	22	465
Do. (salaries).....	1885	10,916.00	23	126
Do. (support)	1885	22,000.00	23	126
Do. (salaries).....	1886	11,616.00	23	314
Do. (support)	1886	25,000.00	23	314
Do. (salaries).....	1887	11,616.00	24	133
Do. (support)	1887	25,000.00	24	133
Do. (water-tank and building).....	1887	19,500.00	24	252
Do. (salaries).....	1888	12,476.00	24	578
Do. (support)	1888	25,000.00	24	578
Do. (greenhouse)	1888	4,500.00	24	579
Do. (workshop)	1888	4,700.00	24	579
Do. (improvements of grounds)	1888	500.00	24	579
Register of Wills office (included in Miscellaneous expenses).....	1879		20	208, 416
Do.....	1880		20	409
Do.....	1881		21	162
Do.....	1882		21	465
Do. (deficiency)	1882		22	273
Do.....	1883		22	142
Do. (deficiency)	1883		23	252
Do.....	1884		22	469
Do.....	1885		23	130
Do.....	1886		23	318
Do.....	1887		24	116
Do.....	1888		24	578
Rent. (See under title of department or office paying the rent.)				
Roads, Benning's Bridge. (See Roads, County, etc.).....	1888			
Roads, Bladensburg. (See Roads, County, etc.).....	1888			
Roads, county and suburban streets (included in Streets, current repairs).....	1879		20	208, 416
Do. (deficiency)	1879	2,484.76	23	272
Do. (included in Streets, current repairs).....	1880		20	409
Do. (deficiency)	1880	319.61	22	272
Do.....	1881		21	159
Do.....	1882	20,000.00	21	462
Do.....	1883	25,000.00	22	139
Do.....	1884	20,000.00	22	466
Do. (included in Streets, current repairs to)	1885	25,000.00	23	127
Do.....	1886	40,000.00	23	315
Do.....	1887	40,000.00	24	134
Do. (opening and extending).....	1887	30,000.00	24	134
Do. (constructing)	1888	50,000.00	24	573
Do. (current repairs of)	1888	25,000.00	24	573
Road, Eastern Branch. (See Roads, County, etc.).....	1888			
Road, Fourteenth street, opening and widening	1883	6,000.00	22	136
Road, Seventh street, repair of.....	1881	15,000.00	21	150
Road, Tennallytown. (See Roads, County, etc.).....	1888			
Roadways, MacAdam. (See MacAdam, etc.).....			23	315
Rock Creek Basin. (See Sewer, tidal).....				
St. Ann's Orphan Asylum	1879	5,000.00	20	208, 416
Do.....	1880	5,000.00	20	404
Do.....	1881	5,000.00	21	157
Do.....	1882	5,000.00	21	460

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.		Year.	Amount.	Vol.	Page.
Police—Continued.					
Rent.....	\$5,960.00	1882	.....	21	463
Do.....	5,960.00	1883	.....	22	140
Do.....	2,920.00	1884	.....	22	467
Do.....	3,020.00	1885	.....	23	128
Do.....	2,160.00	1886	.....	23	316
Do.....	1,200.00	1887	.....	24	135
Do.....	1,200.00	1888	.....	24	576
Salaries.....	278,873.00	1879	.....	20	208, 416
Do. (\$700 usable for furniture).....	281,732.00	1880	.....	20	408
Do.....	284,751.00	1881	.....	21	161
Do.....	283,596.00	1882	.....	21	463
Do.....	283,020.00	1883	.....	22	140
Do.....	286,440.00	1884	.....	22	467
Do.....	303,380.00	1885	.....	23	128
Do.....	308,060.00	1886	.....	23	316
Do.....	318,980.00	1887	.....	24	135
Do.....	329,360.00	1888	.....	24	576
Contingent expenses.....	12,184.00	1879	.....	20	208, 416
Do. (deficiency).....	50.85	1879	.....	23	454
Do.....	12,184.00	1880	.....	20	408
Do. (deficiency).....	45.40	1880	.....	22	272
Do.....	6,469.00	1881	.....	21	161
Do. (deficiency).....	586.34	1881	.....	22	272
Do.....	6,469.00	1882	.....	21	463
Do. (deficiency).....	700.00	1882	.....	22	591
Do.....	1,224.00	1882	.....	22	273
Do.....	10,000.00	1883	.....	22	140
Do. (deficiency).....	525.52	1883	.....	22	252
Do.....	9,500.00	1884	.....	22	467
Do.....	9,500.00	1885	.....	23	128
Do. (deficiency).....	440.00	1885	.....	23	455
Do.....	11,000.00	1886	.....	23	316
Do.....	10,000.00	1887	.....	24	135
Do.....	11,500.00	1888	.....	24	576
Signal system.....	5,000.00	1885	.....	23	128
Do.....	2,600.00	1886	.....	23	316
Do.....	4,500.00	1887	.....	24	135
Do. (second precinct).....	4,500.00	1888	.....	24	576
Poor, relief of.....		1878	\$5,000.00	20	250
Do.....		1879	5,000.00	20	208, 416
Do.....		1879	15,000.00	20	208, 416
Do.....		1880	15,000.00	20	404
Do. (deficiency).....		1881	10,000.00	21	157
Do.....		1881	660.00	23	251
Do.....		1882	15,000.00	21	459
Do.....		1883	15,000.00	22	137
Do.....		1884	15,000.00	22	465
Do.....		1885	15,000.00	23	126
Do.....		1886	15,000.00	23	314
Do.....		1887	15,000.00	24	133
Do.....		1888	15,000.00	24	579
Poor, physicians to. (Included in Poor, relief of.)					
Property division (also included in Engineer's office) ..	11,621.00	1881	.....	21	158
Do.....	11,115.00	1882	.....	21	461
Property sales of:					
Square 109. (See also Holmead Cemetery).....	51,362.00	.....	.....	23, 20	130, 353
Lot 3, square 382.....	38,668.10	.....	.....	22, 21	37, 467
Lot 3, square 490.....	3,075.84	.....	.....	22, 21	37, 467
Lots 1 and 17, square 372.....	5,071.82	.....	.....	22	37
Lot 245, square 99.....		.....	.....	22, 21	37, 467
South of square 181.....	2,089.52	.....	.....	22, 21	37, 467
Fish wharf, square 6.....		.....	.....	21, 23	467, 27
Lots 47, 48, and 49, square 30.....		.....	.....	21, 22	467, 38
Lot 3 in square 108.....		.....	.....	20, 22	408, 38
Angles at Sixteenth and K, northwest.....	7,452.00	.....	.....	21	467
Printing Office, Government, water supply to. (See Government Printing Office.)					
Property yards, rent of (included in Contingent ex- penses of Engineer's office).....					
Do.....	300.00	1879	.....	20	208, 416
Do.....	300.00	1880	.....	20	409
Do.....	300.00	1881	.....	21	158
Do.....	300.00	1882	.....	21	461
Do.....	300.00	1883	.....	22	139
Do.....	300.00	1884	.....	22	463
Do.....	300.00	1885		23	124
Do.....	300.00	1886		23	312
Do.....	300.00	1887		24	131
Do.....	300.00	1888		24	572

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Object.	Year.	Amount.	Vol.	Page.
Pumps.....	1879	\$2,500.00	20	208,416
Do.....	1880	2,500.00	20	409
Do.....	1881	3,000.00	21	159
Do.....	1882	3,000.00	21	462
Do.....	1883	3,000.00	22	139
Do. (deficiency).....	1883	7.08	23	252
Do.....	1884	3,000.00	22	466
Do.....	1885	3,000.00	23	127
Do.....	1886	3,000.00	23	315
Do.....	1887	3,000.00	24	134
Do.....	1888	3,000.00	24	574
Records, old. (See Old records.)				
Referees in the Court of Claims United States.....	1882	2,000.00	21	464
Reform School, including salaries and support.....	1879	20,000.00	20	208,416
Do.....	1879	10,000.00	20	208,416
Do.....	1880	20,000.00	20	404
Do. (improvements).....	1881	25,000.00	21	156
Do. (purchase of Peter farm).....	1881	8,500.00	21	156
Do. (salaries).....	1882	10,600.00	21	459
Do. (support).....	1882	20,014.00	21	459
Do. (workshop and machinery; balance from Jay Cooke & Co.).....	1882		21	459
Do. (support; deficiency).....	1882	2,775.00	22	273
Do. (salaries).....	1883	10,936.00	22	137
Do. (support).....	1883	27,014.00	22	137
Do. (salaries).....	1884	10,936.00	22	465
Do. (support).....	1884	22,014.00	22	465
Do. (salaries).....	1885	10,916.00	23	126
Do. (support).....	1885	22,000.00	23	126
Do. (salaries).....	1886	11,616.00	23	314
Do. (support).....	1886	25,000.00	23	314
Do. (salaries).....	1887	11,616.00	24	133
Do. (support).....	1887	25,000.00	24	133
Do. (water-tank and building).....	1887	19,500.00	24	252
Do. (salaries).....	1888	12,476.00	24	578
Do. (support).....	1888	25,000.00	24	578
Do. (greenhouse).....	1888	4,500.00	24	579
Do. (workshop).....	1888	4,700.00	24	579
Do. (improvements of grounds).....	1888	500.00	24	579
Register of Wills office (included in Miscellaneous expenses).....	1879		20	208,416
Do.....	1880		20	409
Do.....	1881		21	162
Do.....	1882		21	465
Do. (deficiency).....	1882		22	273
Do.....	1883		22	142
Do. (deficiency).....	1883		23	252
Do.....	1884		22	469
Do.....	1885		23	130
Do.....	1886		23	318
Do.....	1887		24	136
Do.....	1888		24	578
Rent. (See under title of department or office paying the rent.)				
Roads, Benning's Bridge. (See Roads, County, etc.).....	1888			
Roads, Bladensburg. (See Roads, County, etc.).....	1888			
Roads, county and suburban streets (included in Streets, current repairs).....	1879		20	208,416
Do. (deficiency).....	1879	2,484.76	23	272
Do. (included in Streets, current repairs).....	1880		20	409
Do. (deficiency).....	1880	319.61	22	272
Do.....	1881		21	159
Do.....	1882	20,000.00	21	462
Do.....	1883	25,000.00	22	139
Do.....	1884	20,000.00	22	466
Do. (included in Streets, current repairs to).....	1885	25,000.00	23	127
Do.....	1886	40,000.00	23	315
Do.....	1887	40,000.00	24	134
Do. (opening and extending).....	1887	30,000.00	24	134
Do. (constructing).....	1888	50,000.00	24	573
Do. (current repairs of).....	1888	25,000.00	24	573
Road, Eastern Branch. (See Roads, County, etc.).....	1888			
Road, Fourteenth street, opening and widening.....	1883	6,000.00	22	136
Road, Seventh street, repair of.....	1881	15,000.00	21	156
Road, Tennallytown. (See Roads, County, etc.).....	1888			
Roadways, MacAdam. (See MacAdam, etc.).....			23	315
Rock Creek Basin. (See Sewer, tidal).....				
St. Ann's Orphan Asylum.....	1879	5,000.00	20	208,416
Do.....	1880	5,000.00	20	404
Do.....	1881	5,000.00	21	157
Do.....	1882	5,000.00	21	460

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Object.	Year.	Amount.	Vol.	Page.
St. Ann's Orphan Asylum	1883	\$5,000.00	22	137
Do	1884	5,000.00	22	465
Do	1885	5,000.00	23	126
Do	1886	5,000.00	23	314
Do	1887	5,000.00	24	133
Do	1888	6,000.00	24	579
Do	1887	5,000.00	24	133
St. Rose Industrial School	1888	5,000.00	24	579
Do	1879	380,000.00	20	208, 416
Schools	1880	475,000.00	20	408
Do	1880	8,844.00	21	253
Do. (deficiency)	1881	502,434.80	21	159
Do. (exclusive of \$2,400 interest on Linthicum loan)	1881	192.36	22	272
Do. (deficiency)	1882	582,062.47	21	464
Do	1882	41,739.74	.....	.....
Do. (deficiency)	1883	529,740.40	22	141
Do	1883	88,056.99	.....	.....
Do. (deficiency)	1884	546,175.00	22	468
Do	1884	10,214.17	.....	.....
Do. (deficiency)	1885	590,840.00	23	129
Do	1885	5,718.33	.....	.....
Do. (deficiency)	1886	554,930.00	23	317
Do	1886	1,730.13	.....	.....
Do. (deficiency)	1887	597,750.00	24	136
Do	1887	1,500.00	24	204
Do. (deficiency)	1888	812,420.00	24	574
Do .....	.....	.....	.....	.....
Detailed as follows: Buildings, additions and sites; Repairs and improvement of buildings and grounds; Fuel; Rent; Salaries; Contingent expenses.				
Buildings, additions, and sites:				
Force and Peabody	\$75,000.00	1880	20	408
Force, site in square 158 given for .....	.....	1880	20	408
Peabody, completion of (deficiency)	7,500.00	1880	21	253
Henry, Garnet, Tennallytown, and Columbia road	100,000.00	1881	21	160
Gales, Webster, Anacostia, and Bladensburg pike	104,000.00	1882	21	465
Heating and ventilating (deficiency)	13,000.00	1882	22	273
High School, proceeds of bonds	70,630.47	1882	21	465
High School, proceeds of sale of angles at corner Sixteenth and K, northwest	7,452.00	1882	21	467
Jefferson, rebuilding (deficiency) reduced to \$57,000 .....	.....	1882	22	12
Do	363.00	1882	23	251
Do	57,000.00	1883	22	142
Fire-escapes	10,000.00	1883	22	142
Amidon	24,000.00	1883	22	142
Analostan	48,000.00	1883	22	142
Bannaker	24,000.00	1883	22	142
Howard University (addition)	3,318.00	1883	22	142
Anacostia, additional ground for	750.00	1883	22	142
Seaton, additional ground for	3,800.00	1883	22	142
Morse and Twining	57,000.00	1884	22	469
Brent	23,000.00	1884	22	469
Bladensburg road, near Brooks's	3,000.00	1884	22	469
Bladensburg pike (addition) insufficient, not used	12,000.00	1884	22	469
Benning's	5,000.00	1884	22	469
Heating and ventilating	12,000.00	1884	22	468
Bladensburg Pike	3,500.00	1885	23	130
Wormley and Blair, proceeds sale square 109	49,000.00	1885	23	130
Dennison	66,000.00	1885	23	130
Addison and Stevens	60,000.00	1886	23	318
Sites in square 1,010 and Thirteenth and a-half and M streets, southwest .....	.....	.....	.....	.....
Heating apparatus (deficiency)	250.00	1886	24	263
School site (deficiency)	880.13	1886	24	264
Maury .....	.....	.....	.....	.....
Weightman and site	75,000.00	1887	24	136, 264
Tennallytown addition .....	.....	.....	.....	.....
Columbia road addition	3,000.00	1888	24	575
Hamilton road addition	3,000.00	1888	24	575
Towers, Magruder, and Bradley, at \$25,000 each	75,000.00	1888	24	575
Lots, sale of any, authorized for site	none sold	1888	24	575
Lots, not used	3,000.00	1888	24	575
Phelps, Carberry, Blake, and with sites, at \$35,000 each	140,000.00	1888	24	575

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Object.	Year.	Amount.	Vol.	Page.
Schools—Continued.				
Buildings, additions, and sites—Continued.				
Sanitary improvements in old buildings....	\$10,000.00	1888	24	575
Fire escapes	6,000.00	1888	24	575
Repairs and improvement of buildings and grounds.....	20,000.00	1879	20	208, 416
Do	25,000.00	1880	20	408
Do	15,000.00	1881	21	160
Do. (deficiency)	105.87	1881	22	273
Do	10,000.00	1882	21	465
Do. (deficiency)	3,000.00	1882	22	273
Do	2,000.00	1882	22	273
Do	1,000.00	1882	22	273
Do	15,000.00	1883	22	141
Do. (deficiency) reappropriation	2,540.50	1883	22	591
Do	15,000.00	1884	22	468
Do. (deficiency)	2,500.00	1884	23	17
Do	64.17	1884	23	455
Do	20,000.00	1885	22	130
Do	20,000.00	1886	23	318
Do	20,000.00	1887	24	136
Do	20,000.00	1888	24	575
Fuel	12,000.00	1879	20	208, 416
Do	12,000.00	1880	20	408
Do	12,000.00	1881	21	160
Do	11,000.00	1882	21	465
Do. (deficiency)	5,000.00	1882	22	273
Do	15,000.00	1883	22	141
Do. (deficiency)	4,500.00	1883	22	586
Do	18,000.00	1884	22	468
Do. (deficiency)	500.00	1884	23	253
Do	18,000.00	1885	23	130
Do	20,000.00	1886	23	318
Do	20,000.00	1887	24	136
Do	20,000.00	1888	24	575
Rent	28,000.00	1879	20	208, 416
Do	30,000.00	1880	20	408
Do. (exclusive \$2,400 interest on Linthicum loan)	27,600.00	1881	21	160
Do. (deficiency)	76.49	1881	22	273
Do	23,000.00	1882	21	464
Do. (deficiency)	2,000.00	1882	22	12
Do	1,472.57	1882	22	591
Do	14,000.00	1883	22	141
Do. (special rent)	1,200.00	1883	22	142
Do	8,000.00	1884	22	468
Do. (deficiency)	750.00	1884	23	253
Do	6,460.00	1885	23	130
Do. (deficiency)	300.00	1885	23	455
Do	300.00	1885	24	264
Do	7,000.00	1886	23	318
Do	6,000.00	1887	24	136
Do. (deficiency)	1,500.00	1887	24	264
Do	15,000.00	1888	24	575
Salaries:				
Superintendence and teachers	282,010.00	1879	20	208, 416
Janitors	19,402.63	1879	20	208, 416
Superintendence and teachers	292,010.00	1880	20	407
Janitors	19,402.63	1880	20	407
Do. (deficiency)	1,344.00	1880	22	273
Superintendence and teachers	303,410.00	1881	21	150
Janitors	24,424.80	1881	21	160
Superintendence and teachers	318,810.00	1882	21	464
Janitors	22,170.00	1882	21	464
Teachers (deficiency)	8,000.00	1882	22	273
Secretary	150.00	1882	23	251
Superintendence and teachers	342,825.00	1883	22	141
Janitors	25,000.00	1883	22	141
Superintendence and teachers	356,175.00	1884	22	468
Janitors	23,500.00	1884	22	468
Do	3,900.00	1884	23	17
Superintendence and teachers	379,100.00	1885	23	129
Janitors	28,780.00	1885	23	129
Superintendence and teachers	397,250.00	1886	23	317
Teachers night schools (deficiency)	600.00	1886	24	264
Janitors	30,680.00	1886	23	317

Object.	Year.	Amount.	Vol.	Page.
Schools—Continued.				
Salaries—Continued.				
Superintendence and teachers	1887	\$422,350.00	24	136
Teachers night schools	1887	2,500.00	24	136
Janitors	1887	31,900.00	24	136
Superintendence and teachers	1888	445,220.00	24	574
Teachers night schools	1888	5,000.00	24	574
Janitors	1888	34,400.00	24	575
Contingent expenses, including furniture, etc.	1879	\$18,587.37	20	208, 416
Do	1880	21,587.37	20	408
Do	1881	20,000.00	21	160
Do	1882	15,000.00	21	465
Do. (deficiency)	1882	5,000.00	22	273
Do	1882	754.17	22	591
Do	1883	15,000.00	22	441
Do. (furniture)	1883	6,000.00	22	469
Do. (apparatus for High School)	1883	2,000.00	22	142
Do. (deficiency)	1883	1,875.68	23	252
Do. (apparatus; deficiency)	1883	1,971.72	23	252
Do. (furniture; deficiency)	1883	5.49	23	252
Do. (deficiency)	1883	6.50	23	454
Do. (deficiency)	1883	4.50	24	264
Do	1884	15,000.00	22	468
Do. (furniture)	1884	6,000.00	22	469
Do. (deficiency)	1884	5,000.00	22	273
Do	1885	20,000.00	23	130
Do. (deficiency)	1885	*3,000.00	23	455
Do. (deficiency)	1885	2,118.33	24	264
Do	1886	20,000.00	23	318
Do	1887	20,000.00	24	136
Do	1888	20,000.00	24	575
Do. (furniture)	1888	8,000.00	24	576
Do. (night schools)	1888	300.00	24	575
Do. (industrial education plant)	1888	5,000.00	24	575
Schools, night (deficiency)	1886	600.00	24	264
Do. (salaries)	1887	2,500.00	24	136
Do. (salaries)	1888	5,000.00	24	575
Do. (contingent)	1888	300.00	24	575
Sealer of weights and measures	1879	\$80.00	20	208, 416
Do	1880	80.00	20	406
Do. (deficiency)	1880	6.67	21	253
Do	1881	80.00	21	158
Do	1882	80.00	21	461
Do. (salary discontinued after 1883)	1883	80.00	22	138
Sewers:				
Detailed as follows: Sewers, construction of; Sewers and basins, cleaning; Sewers, Boundary; Sewers, Bureau of Engraving and Printing; Sewers, general; Sewers, lateral; Sewers, main and pipe; Sewer, New York avenue; Sewers, obstructed, replacing; Sewers, suburban; Sewerage, system, completion of; Sewers, Tiber Sewers, tidal.				
Sewers, construction of (deficiency)	1879		22	274
Do	1880	143,000.00	20	403
Do. (deficiency)	1880	457.59	23	454
Do	1881	115,000.00	21	155
Do. (deficiency)	1881	6,414.30	23	454
Do	1882	72,000.00	21	458
Do	1883	106,000.00	22	135, 143
Do	1884	595,000.50	22	464
Do. (deficiency)	1884	44.36	23	62
Do	1885	*100,000.00	23	125
Do. (deficiency)	1885	20,000.00	24	264
Do. (deficiency)	1886	25,000.00	23	313
Do	1887	46,200.00	24	132, 224
Do	1888	92,500.00	24	574
Sewers and basins, cleaning.				
Do	1880	†10,000.00	20	408
Do	1881	13,000.00	21	159
Do. (deficiency)	1882	†23,000.00	21	462
Do	1882	†25.57	22	591
Do	1883	123,000.00	22	139
Do. (deficiency)	1884	†23,000.00	22	464, 466
Do	1884	†40.28	23	454
Do. (deficiency)	1885	†25,000.00	23	127
Do	1885	†73.47	24	264
Do. (and repairing)	1886	†25,000.00	23	315
Do. (and repairing)	1887	†25,000.00	24	134
Do	1888	30,000.00	24	574

* This \$100,000 for 1885 was merged with the \$500,000 for 1884 for completion of sewerage system, and applied to Boundary sewer and other main-sewer work.

† Cleaning basins under "Lateral sewers" prior to 1887.

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Object.	Year.	Amount.	Vol.	Page.
Sewer, Boundary (deficiency) reappropriation	1879		22	274
Do..... \$100,000.00	1880		20	403
Do. (deficiency) 457.59	1880		23	454
Do..... 100,000.00	1881		21	155
Do. (deficiency) 6,414.30	1881		23	454
Do..... 50,000.00	1882		21	458
Do..... 85,000.00	1883		22	135
Do. (condemnation land for)..... 1,000.00	1883		22	143
Do..... 75,000.00	1884		22	464
Do. (deficiency) 44.36	1884		24	264
Do..... 100,000.00	1885		23	125
Do. (deficiency) 20,000.00	1885		24	264
Do. Bureau of Engraving and Printing. (See 1888).....	1887		24	224
Do..... 2,443.30	1888		24	512
Sewers, lateral..... 15,000.00	1880		20	403
Do..... 15,000.00	1881		21	155
Do..... 15,000.00	1882		21	458
Do. (cleaning) 20,000.00	1882		21	462
Do..... 20,000.00	1883		22	135
Do. (cleaning) 20,000.00	1883		22	130
Do..... 20,000.00	1884		22	464
Do. (cleaning) 20,000.00	1884		22	466
Do. (deficiency) 4.48	1884		23	454
Do. (cleaning) 22,000.00	1885		23	127
Do. (cleaning, deficiency)..... 53.78	1885		24	264
Do..... 25,000.00	1886		23	313
Do. (cleaning and repairing) 20,000.00	1886		23	315
Sewers, main and pipe..... 50,000.00	1888		24	574
Sewer, New York avenue..... 28,000.00	1880		21	155
Do..... 7,000.00	1882		21	458
Sewers, obstructed, replacing..... 7,500.00	1888		24	574
Sewers, suburban, constructing..... 35,000.00	1888		24	574
Sewerage system, completion of..... 500,000.00	1884		23	62
Sewer, Tiber, cleaning..... 10,000.00	1880		20	409
Sewers, tidal, clearing..... 3,000.00	1881		21	159
Do..... 3,000.00	1882		21	462
Do. (cleaning, deficiency) 25.57	1882		22	591
Do. (cleaning) 3,000.00	1883		22	139
Do..... 3,000.00	1884		22	466
Do. (cleaning, deficiency)..... 35.80	1884		23	454
Do. (cleaning) 3,000.00	1885		23	127
Do. (cleaning, deficiency) 19.69	1885		24	264
Do. (cleaning) 5,000.00	1886		23	315
Do. (under "Sewers and basins, cleaning" after 1886.).....				
Sewer certificates, redemption of (see Certificates, etc.).....	1886		23	313
Sinking-fund office, salaries and contingent.....	1879	\$2,700.00	20	208, 416
Do.....	1880	2,700.00	20	405
Do.....	1881	2,700.00	21	158
Do.....	1882	2,700.00	21	461
Do.....	1883	2,700.00	22	138
Do.....	1884	2,700.00	22	463
Do.....	1885	2,700.00	23	124
Do.....	1886	2,700.00	23	312
Do.....	1887	2,700.00	24	131
Do.....	1888	2,700.00	24	572
Sinking fund. (See Interest and sinking fund.).....		250.00	24	263
Smead, Isaac C. (deficiency).....			20	405
Special assessment division..... 6,440.00	1880		21	157
Do..... 4,300.00	1881		21	461
Do. (included in assessor's office) 1,800.00	1882		22	138
Do. (included in assessor's office) 1,800.00	1883		22	462
Do. (included in collector's office)..... 1,700.00	1884		23	123
Do. (included in collector's office) 1,700.00	1885		23	311
Do. (included in collector's office) 1,700.00	1886		24	130
Do. (included in collector's office) 1,700.00	1887		24	571
Do. (included in assessor's office) 1,700.00	1888			
Station-houses. (See Police.).....				
Streets. (See Alleys, cleaning; Avenues and streets; Lamps, street; Parking; Pavements, concrete; Pavements, replacement of; Permit work; Pumps; Road, Fourteenth street; Road, Seventh street; Roads, county and suburban streets; Roadways, macadam; Streets, avenues, and alleys, current repairs to; Streets and avenues, improvement of; Streets and avenues, sweeping, cleaning and sprinkling; Streets and avenues, improvement of; Streets below grade, filling of; Streets and avenues, sundry work on; Streets, suburban; Sewers.).....				

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Streets, avenues, and alleys, current repairs to.....	1879	\$56,741.00	20	208, 416
Do.....	1879	2,484.76	22	272
Do.....	1880	75,500.00	20	400
Do. (deficiency).....	1880	319.61	22	272
Do.....	1881	70,000.00	21	159
Do.....	1882	20,000.00	21	462
Do. (deficiency).....	1882	2.00	22	591
Do.....	1883	25,000.00	22	139
Do.....	1884	25,000.00	22	466
Do.....	1885	25,000.00	23	127
Do. (deficiency).....	1885	22.98	24	264
Do.....	1886	25,000.00	23	315
Do.....	1887	25,000.00	24	134
Do.....	1888	30,000.00	24	573
Streets and avenues, sweeping, cleaning, and sprinkling.....	1879	35,100.00	20	208, 416
Do.....	1880	35,100.00	20	409
Do.....	1881	35,100.00	21	159
Do.....	1882	30,000.00	21	462
Do.....	1883	33,000.00	22	139
Do.....	1884	40,000.00	22	466
Do.....	1885	40,000.00	23	127
Do.....	1886	45,000.00	23	315
Do. (including cleaning alleys).....	1887	58,000.00	24	134
Streets, avenues, and alleys, sprinkling, sweeping.....	1888	65,000.00	24	573
Streets and avenues, improvement of.....	1888	360,000.00	24	573
Streets and avenues, sundry work on. (See Pavements, replacement of.)				
Streets, below grade, filling of.....	1888	10,000.00	24	573
Streets, suburban. (See Roads, county, etc.)				
Suits against District of Columbia in Court of Claims and Departments, defense of District of Columbia.....	1887		24	252
Do.....	1888	2,500.00	24	577
Suits, costs of, to reimburse Commissioner Phelps, defendant.....	1885		23	455
Surveys of District of Columbia.....	1881	5,000.00	21	156
Do.....	1882	5,000.00	21	458
Do.....	1883	5,000.00	22	135
Do.....	1884	5,000.00	22	464
Do.....	1885	5,000.00	23	125
Do.....	1886	5,000.00	23	313
Do.....	1887	4,000.00	24	132
Do.....	1888	4,000.00	24	573
Surveyor's records, binding.....	1883	500.00	22	139
Taxes, school, and other, refunding of.....	1879	35,000.00	20	208, 416
Taxes on Columbia Hospital, payment of (deficiency) 5,320.53.....	1884		23	253
Taxes on lots 6 and 7, square 169 (deficiency).....	1885	543.30	23	456
Telegraph and telephone service (in fire department).....	1879		20	208, 416
Do. (in fire department).....	1880			
Do. (in fire department).....	1881			
Do.....	1882			
Do. (deficiency) reappropriation.....	1883	17,000.00	22	140
Do.....	1883		23	252
Do.....	1884	12,440.00	22	467
Do.....	1885	20,440.00	23	129
Do.....	1886	15,440.00	23	317
Do.....	1887	15,840.00	24	135
Do.....	1888	15,840.00	24	577
Town Hall, Georgetown, remodeling of. (See Fire department, buildings.)				
Tramway, Washington Asylum.....	3,250.00			
Treasurer's office, District of Columbia. (See Assessor's office.)	1885		23	125
Washington Aqueduct.....				
Do.....	1879	20,000.00	20	208, 416
Do.....	1880	20,000.00	20	404
Do.....	1881	20,000.00	21	157
Do.....	1882	20,000.00	21	458
Do.....	1883	20,000.00	22	136
Do.....	1884	20,000.00	22	464
Do.....	1885	20,000.00	23	125
Do.....	1886	20,000.00	23	313
Do.....	1887	20,000.00	24	132
Do.....	1888	20,000.00	24	573
Washington Aqueduct extension. (See Water supply, etc., increase of.)				
Washington Asylum.....				
Do.....	1879	52,500.00	20	208, 416
Do.....	1880	45,180.00	20	404
Do. (deficiency).....	1881	48,040.00	21	156
Do.....	1880	88.82	21	426
Do. (deficiency).....	1882	49,020.00	21	458
Do. (deficiency).....	1882	5,000.00	22	273
Do. (deficiency).....	1882	124.61	22	591

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Washington Asylum	1883	\$46,820.00	22	136
Do.	1884	46,320.00	22	464
Do. (deficiency) reappropriation for 1883, \$3,500.....	1884		23	253
Do.	1885	52,310.00	23	126
Do. (deficiency) reappropriation for 1883, \$4,000.....	1885	.....	23	456
Do.	1886	69,680.00	23	313
Do.	1887	57,385.00	24	132
Do.	1888	53,305.00	24	578
Detailed as follows: Under Salaries; Supplies and contingencies; Buildings and other improvements.				
Salaries	\$9,700.00	1879	20	208,416
Do.	9,860.00	1880	20	404
Do.	9,540.00	1881	21	156
Do.	10,820.00	1882	21	458
Do.	10,820.00	1883	22	136
Do.	10,820.00	1884	22	464
Do.	11,560.00	1885	23	125
Do.	11,680.00	1886	23	313
Do.	12,885.00	1887	24	132
Do.	13,305.00	1888	24	578
Supplies and contingencies.....	33,300.00	1879	20	208,416
Do.	35,300.00	1880	20	404
Do.	28,500.00	1881	21	156
Do. (deficiency).....	88.82	1880	21	426
Do.	30,000.00	1882	21	458
Do. (deficiency).....	5,000.00	1882	22	273
Do. (deficiency).....	124.61	1882	22	591
Do.	35,000.00	1883	22	136
Do.	35,000.00	1884	22	464
Do.	35,000.00	1885	23	125
Do.	38,000.00	1886	23	314
Do.	39,000.00	1887	24	132
Do.	40,000.00	1888	24	578
Buildings and other improvements:				
New hospital.....	2,000.00	1879	20	208,416
Work-house	7,500.00	1879	20	208,416
South wing of work-house.....	10,000.00	1881	21	156
Bunks, etc., work-house.....	4,500.00	1882	21	459
Steam heating, etc.....	3,700.00	1882	21	459
Work-house, completion of.....	1,000.00	1883	22	136
Hospital repairs.....	500.00	1884	22	404
Hospital ward, new (deficiency)*.....	3,500.00	1884	23	253
Stable, repairs to.....	2,500.00	1885	23	125
Cars and tracks.....	3,250.00	1885	23	125
Hospital ward, completion (deficiency)*.....	4,000.00	1885	23	455
Work-house, female.....	20,000.00	1886	23	314
Hospital ward, new.....	3,500.00	1887	24	132
Dummy engine.....	2,000.00	1887	24	133
Water Department. (See also Water supply, etc., <i>infra</i> .)				
Salaries.....	1883	9,339.00	22	143
Do.	1884	9,342.00	22	470
Do.	1885	9,339.00	23	131
Do.	1886	9,339.00	23	319
Do.	1887	9,539.00	24	137
Do.	1888	9,536.00	24	580
Contingent expenses.....	1883	2,400.00	22	143
Do.	1884	2,400.00	22	470
Do.	1885	2,400.00	23	131
Do.	1886	2,400.00	23	319
Do.	1887	2,400.00	24	137
Do.	1888	2,400.00	24	580
Mains, purchase and laying of, and high service.....	1883	55,101.50	22	143
Do.	1884	53,251.50	22	470
Do.	1885	100,000.00	23	131
Do.	1886	78,000.00	23	319
Do.	1887	75,000.00	24	137
Do.	1888	100,000.00	24	580
Pumping engine, for high service and connections.....	1888	35,000.00	24	580
Interest on water bonds, and on advance for additional water supply. (See Interest.)				
Water supply of city of Washington, increase of:				
Interest on cost. (See Interest, etc.).....	1882	51,370.00	22	170
Land for aqueduct.....	1882	599,534.35	22	170
Aqueduct	1882	165,400.00	22	170
Main connections.....	1882	35,250.00	22	170
Land for reservoir.....	1882	431,273.75	22	170
Work on reservoir and gate-house.....	1882	45,000.00	22	170
Water rights at Great Falls.....	1882		22	170

* Reappropriation from 1883.

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Index to appropriations for support of government of District of Columbia, etc.—Cont'd.

Object.	Year.	Amount.	Vol.	Page.
Water supply of city of Washington, increase of—Continued.				
Work on dam at Great Falls.....	1882	\$145,151.00	22	170
Protect Chesapeake and Ohio Canal.....	1882	12,300.00	22	170
Land for reservoir.....	1884	87,500.00	23	253
Do.....	1885	87,500.00	23	457
Do.....	1886	555,000.00	24	265
Weights and measures, sealer of. (See Sealer, etc.)				
Women's Christian Association.....	1880	5,000.00	20	404
Do.....	1881	5,000.00	21	157
Do.....	1882	5,000.00	21	460
Do.....	1883	5,000.00	22	137
Do.....	1884	5,000.00	22	465
Do.....	1885	5,000.00	23	126
Do.....	1886	5,000.00	23	314
Do.....	1887	4,000.00	24	133
Do.....	1888	4,000.00	24	579
Work-house, erection of. (See Asylum.)				
Workmen of board of public works or contractors thereunder.....	1879	75,000.00	20	208, 416

F 2.—ORDERS.

JULY 1, 1886.

Ordered, The following schedule of salaries of officers and teachers of the public schools of the District of Columbia is hereby established until otherwise ordered :

	Salaries.		Salaries.
Class 1.....	\$250	Class 14.....	\$900
Class 2.....	400	Class 15.....	950
Class 3.....	425	Class 16.....	1,000
Class 4.....	450	Class 17.....	1,100
Class 5.....	475	Class 18.....	1,200
Class 6.....	500	Class 19.....	1,300
Class 7.....	550	Class 20.....	1,350
Class 8.....	600	Class 21.....	1,400
Class 9.....	650	Class 22.....	1,500
Class 10.....	700	Principal of colored high school.....	1,800
Class 11.....	750	Supervising principal and director of music.....	2,000
Class 12.....	800	Principal of white high school.....	2,500
Class 13.....	850		

JULY 7, 1886.

Ordered, That the boundaries of the police precincts and fire districts of the District of Columbia are hereby fixed as follows:

(1) Beginning at northwest corner of B street south and Sixth street west; thence north along Sixth street to Louisiana avenue, thence northeast along Louisiana avenue to Fifth street west; thence north along Fifth street to Massachusetts avenue; thence northwest along Massachusetts avenue to Fifteenth street west; thence south along Fifteenth street via west and south sides of McPherson Square to B street south; thence east along B street to the place of beginning.

(2) Beginning at the northwest corner of Massachusetts avenue and Fifth street west; thence north along Fifth street to New York avenue; thence northeast along New York avenue to Boundary street; thence northwest along Boundary street to R street north; thence west along R street to Boundary street; thence along Boundary street to Massachusetts avenue; thence along Massachusetts avenue to the place of beginning.

(3) Beginning at the northwest corner of B street south and Fifteenth street west; thence north along Fifteenth street (via south and west sides of McPherson Square) to Massachusetts avenue; thence northwest along Massachusetts avenue to Boundary street; thence southwest along Boundary street to its intersection with Rock Creek; thence southerly along Rock Creek to the Potomac River; thence eastward along the north bank of the Potomac River to the line of B street south; thence east along the line of B street south to the place of beginning.

(4) Beginning at Anacostia River in the center of South Capitol street, running thence north to the centre of Pennsylvania avenue extended; thence along Pennsylvania avenue to Third street west; thence along Third street to Missouri avenue; thence along Missouri avenue to Sixth street west; thence along Sixth street west to B street south; thence along B street south to the Potomac River; thence via the Potomac and Anacostia Rivers to the place of beginning.

(5) That part of the District of Columbia outside of the cities of Washington and Georgetown situated east of the west bank of the Anacostia River, and that part of the city of Washington bounded by a line commencing at the interception of the center line of East Capitol street by Anacostia River; thence along East Capitol street to the Capitol; thence south via center line of South Capitol street to Anacostia River; thence via right bank of said river to place of beginning.

(6) Beginning at the interception of center line of East Capitol street by the Anacostia River; thence along the right bank of said river to Benning's Bridge; thence along Benning's Road to Boundary street; thence along Boundary street to New York avenue; thence along New York avenue to Fifth street west; thence along said Fifth street to Louisiana avenue; thence along Louisiana avenue to Sixth street west; thence along said Sixth street to Missouri avenue; thence along Missouri avenue to Third street west; thence along said Third street to Pennsylvania avenue; thence along Pennsylvania avenue to the Capitol; thence along East Capitol street to the place of beginning.

(7) Beginning at the west end of Benning's Bridge; thence northerly along the right bank of the Anacostia River to the boundary line of the District of Columbia; thence along said boundary line to Rock Creek; thence along Rock Creek to P street north; thence along Boundary street to R street north; thence along said R street to Boundary street; thence along Boundary street to Fifteenth street east; thence along Benning's Road to the place of beginning.

JULY 21, 1886.

Ordered, That the order of April 11, 1885, making building regulations is hereby amended by making the following provisions in lieu of section 26 of said order:

Persons engaged in the erection, alteration, or repair of any building may, for such reasonable period as the inspector of buildings shall decide, occupy with the building material thereof one-third of the carriage way in front of the lots on which such work is being done, except on streets occupied by railroads, where 8 feet must be left between the material and tracks, and on Pennsylvania avenue where 25 feet must be left, and on all streets so much of the foot-walk as will leave and keep clear at least 6 feet thereof near the center line. They may also occupy one-third the roadway fronting 20 feet on adjoining lots when the inspector of buildings shall consider necessary; the material to be placed

and arranged as that officer may direct. Builders or owners so occupying the road-way or foot-walk shall exhibit a light at night; when the materials occupy 25 feet or more along the street or pavement, two lights, placed in such a manner as to warn passers by that the materials are upon the street, and to distinctly show the clear passage way left in carriage-road or foot-walk. All materials and rubbish shall be removed by the contractor or owner of the property whenever so directed by the inspector. No gutter shall be obstructed except for temporary damming for collecting water for building purposes when there are no other available means therefor, under such conditions as the inspector of buildings may prescribe. Nothing in this section shall be construed so that free passage of wagons, carts, drays, or other conveyances may be obstructed or impeded. No person shall be allowed to slake lime or mix mortar upon the bituminous or asphalt pavements in the District of Columbia, and it shall be the duty of the inspector of buildings in giving building permits to require mortar beds to be constructed with tight bottoms so that the lime or mortar shall not come in contact with the pavement. No change shall be made in the limits or outline of any sidewalk or parking, nor shall any pavement, tree, lamp-post, parking, fence, or terrace be moved, constructed, altered, or modified, except in accordance with plans furnished to and approved by the inspector of buildings.

JULY 31, 1886.

Ordered, That the Department of Agriculture is granted permission to erect a frame building upon the grounds of the Georgetown Almshouse, occupied by the Industrial Home School, with right of way to and from the same, as requested by the board of managers of said school, upon plans to be approved by the inspector of buildings of the District of Columbia, and on condition that the privilege herein given is revocable at the pleasure of the Commissioners, and that said Department will remove building without cost to the District when notified to do so.

Second. That pursuant to the request of Robert P. Dodge, assessor of the District of Columbia, the bonds in his custody representing the legacy of Matthew Wright (which is held in trust by said District), which were placed in charge of Mr. Dodge while he was treasurer of the District, shall be transferred to the collector of taxes of said District, to be held by him under the conditions under which they have been held by Mr. Dodge.

AUGUST 7, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of square 917, in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley way running east and west in said square as the petitioners ask to have closed is hereby closed as prayed for and as is indicated for that purpose on the plan hereto attached (L. R., 126, 925 C. O.), and the new alley way proposed by the petitioners to be substituted therefor, as indicated on said plan, is hereby declared open as a public alley.

AUGUST 10, 1886.

Ordered, That hereafter the collector of taxes shall keep a record, in form to be prepared by him and approved by the Commissioners, of all

certificates that have been or shall be issued by him under the act of February 6, 1879, and note against the tax-book record of the property embraced in such certificate, the date of such issue and a reference to the place where such issue is recorded.

AUGUST 16, 1886.

Ordered, That the clause in the order of July 14, 1886, establishing the rules and regulations for the government and discipline of the Metropolitan police force of the District of Columbia, which relates to appointments on the force, is amended by the addition of the following:

Promotions of privates from the first to the second class shall be made in the order of their appointment upon the force; provided the conduct and intelligent attention to duty of such private has been such as would justify such promotion, which shall be made upon the recommendation of the major of police.

SEPTEMBER 1, 1886.

Ordered, That the offices of market-master and clerk of the Center Market are hereby abolished from this date.

SEPTEMBER 3, 1886.

Ordered, That paragraph 190 of the order of July 15, 1885, prescribing the manual of the Metropolitan police of the District of Columbia, is amended as follows:

The baton for day duty shall be a leather swivel baton, 10 inches long, and be worn concealed from sight.

The baton to be carried on special dress occasions and in cases of emergency shall be of rosewood, 22 inches long and scant $1\frac{1}{4}$ inches diameter.

A small black rattan cane of uniform thickness shall be carried in the hand by the force on day duty on the principal avenues and streets on other than special dress occasions or cases of emergency.

Belts shall be worn only on special dress occasions when so ordered by the major.

Privates while on day duty on the principal avenues and streets, which shall be designated by the captain, shall wear white thread gloves in the summer season and dark gloves in the winter season.

The hats shall be the helmet crown, 6 inches high, of New York pattern, with brim $2\frac{1}{4}$ inches wide; of light felt for the summer season, and of black felt for the winter season.

So much of said paragraph 190 as relates to summer fatigue uniform coat is revoked.

SEPTEMBER 23, 1886.

Ordered, That the order of July 9, 1878, establishing a board to examine and report respecting the merits of applications for liquor licenses, and all other orders so far as they affect said board, are hereby annulled, and the records of said board are transferred to the assessor of the District of Columbia.

SEPTEMBER 30, 1886.

Ordered, That the following apportionment of the fund for the relief of the poor for the current fiscal year is hereby adopted, so far as needed or until otherwise ordered:

Pay of physicians to the poor	\$5,280
Reserved for medicines to poor and for printing	3,300
Central Dispensary	2,400
Woman's Dispensary	265

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Homeopathic Dispensary, including medicines to homeopathic physicians to poor	\$125
Aged Woman's Home	250
Night-Lodging House	400
Benevolent Society of Washington	400
Police distribution	2,000

SEPTEMBER 30, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of square numbered 1004, in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said square as the petitioners ask to have closed is hereby closed as prayed for and as is indicated for that purpose on the plan hereto attached (L. R., 130, 939 C. O.), and the new alley ways proposed by the petitioners to be substituted therefor as indicated on said plan are hereby declared open as public alleys.

SEPTEMBER 24, 1886.

Ordered, That the superintendent of lamps of the District of Columbia shall hereafter only render service under and receive salary from the government of said District.

OCTOBER 4, 1886.

Ordered, That pursuant to the several examinations and reports as to the condition of the Aqueduct Bridge, made to the Commissioners of the District of Columbia by its proper officers, conclusively showing that until certain repairs shall have been made it is not safe for public travel and traffic, the said bridge be closed and barricaded at both ends until said repairs are completed and reported upon favorably to the Commissioners. This order will take effect October 6, 1886, at 12 o'clock m.

OCTOBER 5, 1886.

Ordered, That all persons or corporations occupying a portion of the harbor frontage of the District of Columbia within the jurisdiction of the Commissioners of said District be, and they are hereby, notified that their occupancy or tenancy, under whatsoever claim or authority, with the exception of leases heretofore made by direction of the Commissioners, will terminate on January 1, 1887, and arrangements for occupation from that date must be made with the Commissioners upon such terms and conditions as shall be hereafter established.

OCTOBER 8, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of square numbered 895, in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said square as the petitioners ask to have closed is hereby closed as prayed for, and as indicated for that purpose on the plan hereto attached (L. R. 131, 372, C. O.); and the new alley way proposed by the petitioners to be substituted therefor as indicated on said plan is hereby declared open as a public alley.

OCTOBER 13, 1886.

Ordered, That the requisite proceedings having been taken by the owners of square numbered 597, in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said square as the petitioner asks to have closed is hereby closed as prayed for and as is indicated for that purpose on the plan hereto attached (L. R. 131, 754, C. O.), and the new alley way proposed by the petitioner to be substituted therefor as indicated on said plan is hereby declared open as a public alley.

OCTOBER 15, 1886.

Ordered, That proper proceedings be taken under section 2 of the act of the legislative assembly of the District of Columbia entitled "An act authorizing the Board of Public Works to condemn alleys in the cities of Washington and Georgetown, and roads and streets in the county of Washington," approved August 23, 1871, and acts of Congress, to open the following named roads and streets in the county of Washington:

Massachusetts avenue from Boundary street northwestwardly to and across Rock Creek;

Eighteenth street from Boundary street northwardly so far as land shall be dedicated for that purpose by owners of private property;

A new road from Klinge Ford at Rock Creek to Tennallytown road, to be designated "Nourse road."

(2) That in the case of the extension of Massachusetts avenue ordered in section 1 of this order due notice will issue of the condemnation of the right of way through premises whose owners do not give a deed of dedication.

(3) That a suitable bridge be constructed over Rock Creek at Klinge Ford.

OCTOBER 23, 1886.

Ordered, That for the fiscal year ending June 30, 1887, and pursuant to the provisions of the act of Congress providing a permanent form of government for the District of Columbia, approved June 11, 1878, a tax be and hereby is levied of \$1.50 on every \$100 of real estate not exempted by law, except upon real property held and used exclusively for agricultural purposes without the limits of the cities of Washington and Georgetown, and so designated by the assessor in his annual return, the rate on which shall be \$1 on every \$100; and upon all personal property in the District of Columbia not taxable elsewhere, \$1.50 on every \$100 according to the cash valuation thereof.

The first half of said tax shall be due and payable on the 1st day of November, 1886, and the second half on the 1st day of May, 1887.

OCTOBER 30, 1886.

Ordered, That whereas the collector of taxes is required by law (U. S. Statutes at Large, vol. 21, p. 460) to collect and deposit in the Treasury all revenues of the District, all other employes of the District are prohibited from collecting or receiving or in any manner being the medium for the transmission of funds of any kind whatever due or payable to the District.

H. Ex. 1, pt. 6—10

NOVEMBER 2, 1886.

Ordered, That the Nicolai Brothers restrict their occupancy of square southeast 267 to the proper holding, and at once remove all structures under their usufruct or control that lie within the limits of the public way as shown on the official plan. (See L. R. 129, 457, C. O.)

NOVEMBER 9, 1886.

Ordered, That Commissioner Wheatley is hereby designated to preside at the hearing to be held in this office at 10 o'clock a. m. on Friday, the 12th instant, of the charges of "conduct unbecoming an officer," which have been preferred by Maj. Samuel H. Walker, superintendent of the Metropolitan police force, against Lieut. Richard A. Arnold, of said force. Captain Austin, of said force, will also participate in the investigation, and Assistant Attorney Davis will attend as legal adviser.

NOVEMBER 11, 1886.

Ordered, That owing to the engagements in court of Assistant Attorney Davis on the 12th instant, the hearing on that date is postponed until 10 o'clock a. m. on the 13th instant.

(2) That on and after the 1st day of December, 1886, the charge of \$1 will be made for each permit issued for water and sewer attachments.

(3) That a commission, consisting of Messrs. A. B. Mullett, architect, and H. M. Dellinger and C. C. Martin, builders, be, and hereby is, appointed, with compensation at \$10 each, under paragraph 8 of section 3 of the building regulations of the District of Columbia, whose duty it is to examine the wooden building known as No. 623 New York avenue northwest, and determine and report to the Commissioners upon the questions at issue between the owner of said property and the inspector of buildings of the District of Columbia, viz, whether said building is in a dilapidated condition, and on that account and its insanitary condition dangerous to the occupants in life or limb. The inspector of buildings will supply all information as to his requirements.

NOVEMBER 12, 1886.

Ordered, That in conformity with the provisions of section 3 of the act of June 11, 1878, providing a permanent form of government for the District of Columbia, the space between the tracks of street railways, where there is more than one track, shall be paved by the companies with block pavement. This order is to take effect in all cases where it is needful to repair or relay such inter-track spaces, be the same great or small.

NOVEMBER 23, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of the east part of square numbered 444 in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said part of said square as the petitioners ask to have closed, is hereby closed as prayed for and is indicated for that purpose on the plan hereto attached (L. R. 133,389 C. O.); and the new alley ways proposed by the petitioners to be substituted therefor, as indicated on said plan, are hereby declared open as public alleys.

NOVEMBER 24, 1886.

Ordered, That proper proceedings be taken under section 2 of the act of the legislative assembly of the District of Columbia, entitled "An act authorizing the Board of Public Works to condemn alleys in the cities of Washington and Georgetown, and roads and streets in the county of Washington," approved August 21, 1871, and, under the several acts of Congress of similar purport, to open the following-named avenue and street in the District of Columbia, viz :

A rectilinear prolongation of North Capitol street to the southern boundary of the Soldiers' Home, and of Rhode Island avenue to Lincoln avenue, in said District.

(2) The Commissioners have considered the charges preferred by the superintendent of police against Police Lieutenant Arnold.

The gravamen of the charges against Lieutenant Arnold consists in the allegation that he had willfully misrepresented the superintendent of police and made himself the responsible medium of conveying to the public the false assertion that the superintendent had instructed his officers to note the personal acts of members of Congress in order to influence legislation.

Lieutenant Arnold's defense is that, in point of fact, the superintendent, at a meeting of the police officers, viz, on October 1, 1886, had actually given instructions to the above effect, or suggestions equivalent thereto, and that his (Arnold's) conveyance of them to his sergeant was a confidential communication, which he refers to as unfortunate and deeply regrets.

In the judgment of the Commissioners the testimony taken in the case is not sufficient to sustain fully the technical charge or the specification thereunder in the form in which they were preferred. Ordinarily it is sufficient in the trial of an officer to determine whether he is guilty or not guilty of the specific charges brought against him ; but in this case there has been disclosed a condition of affairs in the police department that demands serious attention and the prompt application of remedial measures.

After careful consideration of the established facts in the case, and of the statements made in the testimony submitted, the judgment of the Commissioners thereon is as follows :

1. It is untrue that Major Walker made or contemplated making any such order or suggestion as was attributed to him by Lieutenant Arnold, and there is absolutely no just basis whatsoever for doubt of Major Walker's entire integrity of purpose and sincerity of statement. This is established by the greatly preponderating weight of evidence, whether numbers or disinterestedness of witnesses be considered ; and, in fact, leaving out the testimony of Lieutenant Arnold, which is not in all respects consistent with itself, which contradicts both his written and verbal statements to the Commissioners, and which, from his status as an accused person, confessedly guilty of an indiscretion, must be regarded *cum grano salis*, the contrary view rests almost solely upon the assertions of Lieutenant Kelly, who has likewise seriously involved himself in contradictory statements, both oral and written, under circumstances which required him to tell the truth.

Major Walker's suggestion to the lieutenants had reference solely to such friendly communication with members of Congress as he himself proposed to have, and his fatal error was in failing to see that the police officials could legitimately commend themselves to the favorable attention of the Commissioners and of Congress by no other means than the intelligent and faithful discharge of their every-day duties. While com-

mending generally Major Walker's zeal and industry, the Commissioners must, therefore, unhesitatingly condemn his suggestion, however innocently intended, of the personal intervention of the police in matters of legislation.

2. It follows from the above that Lieutenant Arnold did misrepresent the superintendent to his sergeant, Diggins, who conveyed the purport of the matter to Private Edelin, and he in turn to others, and so, through the folly or malice of some, and the indiscriminating appetite for sensations of others, a scandal has been blown from a grain of fact to dimensions which are inversely proportional to its actual gravity.

The principal participants, though not all appearing in the testimony, are well known to be malcontents and discharged employés of the District service, who have seized upon the opportunity to revenge themselves, and have eagerly and assiduously propagated the scandal to the four winds of heaven through the medium of the press.

3. Whether the action of Lieutenant Arnold in communicating to his sergeant a false rendition of the remarks of the superintendent of police was in its essence malicious or not, and whether or not it is possible to take so lenient a view of the matter as to suppose that he had honestly misunderstood the purport of those remarks (swearing to what he believed to be the truth in his testimony, notwithstanding its partial inconsistency and entire incompatibility with previous statements not sworn to) he at least stands convicted of communicating the imputation against his superior officer of making a suggestion which his own prolonged experience in police affairs must have taught him could result only in disaster and disgrace.

Furthermore, it appears indisputably in the evidence, and is not denied, that Lieutenant Arnold in conversation with the other lieutenants made an assertion conveying an infamous and impossible accusation against a prominent, though unnamed, official of the Government. It is useless to speculate upon his purpose in giving utterance to this vile and absurd slander. The fact that he uttered it is established, and therefore with the allied fact that, whatever of evil insinuation or stupid proposition can be attributed to the conference in question, he stands out as the prominent and almost sole offender, whose offense, be it said to the credit of the others, was generally and at once rebuked by those who heard and understood it.

4. In making suggestions to other minds than the one formulating them there is always danger, especially with persons of a moderate intelligence, that the recipient will translate the suggestion into his own accustomed and habitual forms of thought, and in all cases of importance this possibility must be allowed for. It may be that the remarks of the major, innocently intended to recommend friendly personal communication with members of Congress, in some cases suggested to officers, having no personal acquaintance with any of those gentlemen, a means whereby influence might be exerted; though it is in evidence that the greater number of those present rejected the base proposition uttered by Arnold and gave no heed to the suggestion of making personal acts the basis of official influence.

It may be that the evidence of Lieutenant Kelly, although seriously tainted by his false statements to the Commissioners, to whom his representations as to facts should not have needed the sanction of an oath, is sincere in part, in that he mistranslated the purport of the superintendent's remarks. Upon no other theory can he and Arnold be acquitted of deliberate false swearing, and unfortunately the somewhat superior

experience and intelligence of these two bear against the more favorable supposition. This question the Commissioners will not undertake to decide, their final action being controlled by the facts as a whole, and not by any special aspect of one or more.

It is therefore ordered :

(1) That the resignation of Maj. Samuel H. Walker, which he has already with good taste placed at the disposal of the Commissioners, is accepted, to take effect from this date.

(2) That Lieut. Richard A. Arnold is dismissed from the Metropolitan police force of the District of Columbia, to take effect from this date, for gross indiscretion, false allegations against public men, and false statements to the Commissioners.

(3) That Lieut. John F. Kelly, of the Metropolitan police force, is hereby reprimanded and suspended from duty without pay for three months, for making false statements to the Commissioners, said suspension to take effect from this date.

(4) That Sergeant Bartholomew Diggins, of the said Metropolitan police force, is hereby reprimanded and reduced to the ranks of said force for three months, for repeating to Private Edelin of the said force the statements of Lieutenant Arnold after having been ordered to let the matter drop, this action to take effect from this date.

(5) That Private William Z. Edelin, of the said force, is hereby dismissed from the Metropolitan police force of the District of Columbia, to take effect from this date, for false swearing on this trial and for disseminating scandal and for tale-bearing after having had the truth of his assertion denied to him by Lieutenant Arnold of said force, and been ordered to hold his tongue.

(6) That Capt. M. A. Austin, of said police force will temporarily assume charge of the police department as acting major and superintendent of the Metropolitan Police, District of Columbia.

NOVEMBER 30, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of square numbered 711, in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said square as the petitioners ask to have closed is hereby closed as prayed for, and as is indicated for that purpose on the plan hereto attached (L. R. 133,104 C. O.), and the new alley ways proposed by the petitioners to be substituted therefor, as indicated on said plan, are hereby declared open as public alleys.

DECEMBER 1, 1886.

Ordered, That the requisite proceedings having been taken by all the owners of square numbered 619 in conformity to the act of Congress entitled "An act to authorize the changing of alley ways in the city of Washington," approved July 6, 1882, so much of the old alley ways in said square as the petitioners ask to have closed is hereby closed as prayed for, and as is indicated for that purpose on the plan hereto attached (L. R. 133,615 C. O.), and the new alley ways proposed by the petitioners to be substituted therefor, as indicated on said plan, are hereby declared open as public alleys.

DECEMBER 2, 1886.

Ordered, That water-gauges be erected in the various police stations, engine-houses, and truck-houses throughout the city.

These gauges will be put up by the water department, and will be read and recorded by the police and fire departments on blanks to be furnished by the water department.

The gauges will be read daily at 9 o'clock a. m., and once each month, on the 15th day, they will be read each hour for the twenty-four hours. The records so made will be transmitted each month to the office of the Commissioners of the District of Columbia.

DECEMBER 3, 1886.

Ordered, That the order of September 30, 1886, making an apportionment of the fund for the relief of the poor for the current fiscal year, is amended by the addition thereto of the following:

For the Woman's Exchange of Washington, \$250.

DECEMBER 8, 1886.

Ordered, That William G. Moore is appointed to the office of major and superintendent of the Metropolitan police force of the District of Columbia, vice Samuel H. Walker, resigned, to take effect from this date.

DECEMBER 7, 1886.

Ordered, That while the Potomac River is frozen, contiguous to the Aqueduct Bridge, and no safe passage of said river can be had at that point, the order of October 4, 1884, closing said bridge to public travel, is temporarily modified to permit persons who reside in Virginia and have employment or urgent business on this side of the river and *vice versa*, to cross over said bridge on foot, on the express condition that all such passages shall be at the risk of said persons, and that no liability shall be incurred by the District of Columbia in the premises. This order shall be operative only in the discretion of the lieutenant of the seventh police precinct as to the persons within its purview.

DECEMBER 11, 1886.

Ordered, When appointments to salaried offices in any of the District departments are made it will be the duty of the secretary to make formal notification thereof to the appointee, and for the better auditing of the District accounts to advise the Auditor of the District and the First Auditor of the Treasury of the name, position, and salary of the appointee and of the date from which his salary is to be paid.

The secretary will likewise keep record of such appointments, with date and subsequent history in each case, and when changes are made information of the fact will be forwarded to the Auditor of the District and to the First Auditor of the Treasury.

(2) On and after January 1, 1887, the use and occupancy of the public streets for the storage and delivery of building materials will be restricted as follows:

No material shall be deposited beyond 8 feet from the curb, nor within 8 feet of a railway track.

All material, of whatsoever nature, deposited outside the parking line must be securely stacked, so as to occupy no more than needful area.

Not less than 6 feet must be kept clear in the middle of sidewalks, and the dressing of materials in the street will not be permitted. Stone and brick may be dressed within the parking line by special permit, if suitably inclosed by a tight fencing.

Mortar beds will be made within the parking line. In case the parking and interior of premises do not afford necessary space, the building inspector, upon application, will make investigation, and if needful may issue a special permit within the 8-feet limit.

So much of section 26 of the building regulations as conflicts with this order is hereby repealed.

DECEMBER 23, 1886.

Ordered. That in consideration of the limited leave which has been allowed District employes during the year, the offices of the District government be closed at 12 o'clock m. on the 24th and 31st of December, and at 1 o'clock p. m. on the 27th, 28th, 29th, and 30th instant. This order will operate so far as consistent with the demands of official business in the several departments of the District government.

(2) That under the provisions of paragraph 15 of section 3 of the building regulations of the District of Columbia, the following commission is hereby appointed to examine the plans and specifications for the reconstruction of the "Rink" building on the north side of E street, between Sixth and Seventh streets northwest, viz:

William M. Poindexter, architect, and Samuel S. Hunt and John G. Bright, builders.

The commission will meet in this office at 11 o'clock a. m., on Friday, the 24th instant, and, after examining the plans and specifications, will make report with reference to the security of the proposed structure, means of prevention and extinguishment of fire, of exit in case of accident, heating and ventilating the building, and generally as to whether the plans indicate that the theater as proposed will conform in essential particulars to the best modern practices for similar structures.

DECEMBER 22, 1886.

Ordered, (1) That all premises to be supplied with water shall hereafter have separate service-pipes and stop-cocks on each, so placed as to be readily accessible from the street, and to control the supply to individual premises only.

(2) But one service-pipe and stop-cock will be permitted to one building except by special permission of the Engineer Commissioner.

(3) Where there are now two or more premises dependent upon one service-pipe notices will be sent by the water department to the owners and occupants of such premises that the needful alterations to comply with the requirements of this order must be made previous to July 1, 1887, as a condition of continuing the water service after that date.

(4) In cases where permits have been given for the supply of two or more premises through a single service, and the pipes are so provided with separate stop-cocks as to enable the water department to control the water service to each without affecting others, no change will be required for the present; *provided*, that where such separate and individual stop-cocks do not exist they shall be put on, and provided fur-

ther that in case of any alteration or repair of the pipes and appendages the service shall be made to conform to the provisions of paragraph 1 of this order.

(5) The water department will cut off the supply of water to all premises not complying with this order by July 1, 1887.

(6) Where permits have already been issued the necessary additional permits for alterations will be issued free of charge.

DECEMBER 28, 1886.

Ordered, In pursuance of the provisions of the order of the Commissioners of date October 5, 1886, terminating all occupancies and tenancies of any portion of the harbor frontage of the District of Columbia, except under leases made by direction of the Commissioners, that proposals be received at this office until 12 o'clock m. of Saturday, January 8, 1887, for the leasehold of all wharves, landings, and other harbor privileges, with the exception above noted.

Proposals will be received for leases for one year or for a term of years, payment to be made annually in advance. Proposals must be inclosed in sealed envelopes addressed to the Commissioners, and marked "proposals for wharf lease."

DECEMBER 29, 1886.

Ordered, That the application of J. K. Strasburger to convert into a theater the building known as the "rink" on E street between Sixth and Seventh streets northwest in the city of Washington, having been duly considered, the said application is hereby disapproved, unless there shall be filed therewith in this office the written permission of majority of the residents and owners of property in the square in which said building is located, and of the front of the square opposite said building.

The Commissioners recognize the propriety and advantage of suitable places of amusement and desire to interpose no unnecessary difficulties in the way of their establishment and maintenance, but are clearly of opinion that all buildings projected to contain a large number of people and exposed to more than ordinary risks should be so devised as to secure the greatest measure of public safety that experience has shown to be practicable in similar cases.

They are also of opinion that before licenses issue for the establishments in question, the interests of the adjacent and neighboring properties whose uses, values, and risks may be affected thereby should be carefully considered. It is therefore

Ordered, (2) That the building regulations of the District of Columbia are hereby so modified that in the case of a projected construction or reconstruction of a theater, hall, or public assembly room, the plans and specifications to be submitted with the application for the permit to build, should be so drawn as to secure the conformity of the proposed structure with the best modern practice in such cases, special regard being had to the security of the structure, means of prevention and extinguishment of fire, means of exit from the stage and auditorium, and appliances for heating and ventilation.

(3) Further, that when application is made for the permit to construct or reconstruct edifices of the character referred to in paragraph 2 of this order, there shall be filed therewith in the office of the inspector of buildings the written permission of a majority of the residents and owners of property in the square in which said building is proposed to

be located and of the confronting side of the opposite square which fronts such building.

(4) Further, that in all cases where such permits are applied for, a license for the particular establishment designed for the purposes indicated in paragraph 2 of this order shall first be procured and submitted to accompany the application.

JANUARY 26, 1887.

Ordered, That section 9, paragraph 15, of the building regulations of the District of Columbia is hereby amended so as to read, after the words "clear height," "nor shall permits be issued for any such building that is less than 12 feet in width."

JANUARY 13, 1887.

Ordered, That in consideration of the application of Lieut. J. F. Kelly for restoration to duty, and at the request of many citizens to the same effect, the unexpired portion of sentence imposed upon him in the order of November 24, 1886, is hereby remitted from this date, and he is directed to report to the major of police for duty.

JANUARY 27, 1887.

Ordered, (1) That the school building situated on the northeast corner of Twenty-third and M streets northwest is hereby named the "Weightman School," in honor of the late Roger C. Weightman, formerly mayor of Washington.

(2) That the school building located on the north side of B street, between Twelfth and Thirteenth streets northeast, is hereby named the "Maury School," in honor of the late John W. Maury, formerly mayor of Washington.

JANUARY 31, 1887.

Ordered, Careful inspection of the plant and operations of the Washington Steam Heat and Power Company having been made, the company is hereby authorized to operate its plant under the conditions of the bond heretofore filed in this office by said company, and service connections will be permitted under the regulations of the engineer department, District of Columbia.

FEBRUARY 14, 1887.

Ordered, In making a pro rata or other assessment against properties for improvements the unit of assessment will be the square foot of property binding upon the line of the improvement as is now established by law in the case of the water-main tax.

(2) Whenever applications for permits for water attachments are received, investigation will be made as to the water rent, water tax, or other water charge that may be due from the premises, and the permit will not be issued until accounts have been adjusted with the water department and so certified on the application by the chief clerk of the department.

(3) That the time within which the work of grading of Eighteenth street extended should be completed, as stipulated in contract No. 759, is hereby extended to June 30, 1887.

JANUARY 31, 1887.

Ordered, That section 26 of the building regulations is hereby amended as follows: And all regulations or parts of regulations inconsistent herewith are hereby repealed.

Persons engaged in the erection, alteration, or repair of any building may, for such reasonable period as the inspector of buildings shall decide, occupy public space with building material as follows, viz:

(1) Material will not be stored beyond 8 feet exterior to the curb nor within 8 feet of railroad track when practicable.

(2) Where the width of carriage way of any street, between curb and railroad track, is less than 16 feet, the inspector of buildings may issue a special permit for the occupation of not more than 8 feet from the curb nor less than 3 feet from the track.

(3) All material, of whatsoever nature, deposited outside the park line must be securely stacked, so as to occupy no more than the needful area.

(4) No less than 6 feet must be kept clear in the middle of sidewalks.

(5) The dressing of materials on the streets and sidewalks is prohibited, but by special permit stone and brick or other material may be dressed within the park line, if suitably inclosed by a tight fencing. The dressing of old material will be under the direction of the inspector of buildings and in general conformity with these regulations.

(6) Mortar beds may be placed upon the parking or roadway. If upon the roadway the distance from the curb shall be fixed by the inspector of buildings, but in no case to exceed 11 feet from the curb. If upon a roadway of concrete, asphalt, or bituminous pavement, the bottoms must be of tight-tongued and grooved boards, placed upon 2-inch bearers or sleepers, leaving an air space, and protected on all sides by a margin of 2-inch boards not less than 6 inches high above the floor surface.

(7) Builders may occupy 20 feet roadway fronting adjoining lots, when considered necessary and permitted by the inspector of buildings.

(8) All materials to be placed and arranged as the inspector may direct, and all materials and rubbish shall be moved by the contractor or owner of the property, when so directed by the inspector.

No gutter shall be obstructed, except for temporary damming for collecting water for building purposes, when there are no other available means therefor, under such conditions as the inspector of buildings may prescribe.

(9) Builders or owners occupying the roadway or sidewalk shall exhibit a light at night placed in such manner as to warn the public that material is on the street, and to distinctly show a clear passage left in road and footway. When the materials occupy 20 feet or more along the street or sidewalk two lights, one at each end, shall be hung clear of the obstructions.

Nothing in this section shall be construed so that free passage of carriages, wagons, carts, and other conveyances shall be obstructed or impeded.

(10) No change shall be made in the limits or outline of any parking or terrace, nor shall any parking fence or terrace be moved, constructed, altered, or modified, except in accordance with plans presented to and approved by the inspector of buildings.

FEBRUARY 19, 1887.

Ordered, That in pursuance of the provisions of the act of Congress approved January 26, 1887, entitled "An act for the further protection of property from fire, and safety of lives, in the District of Columbia," the inspector of buildings, superintendent of police, chief engineer of the fire department, and the superintendent of the water department are hereby constituted a board to consider and report to the Commissioners what, in their judgment, should be the general regulations with reference to fire-escapes, to carry into due effect the provisions of said act. The especial points to be reported upon are:

(1) What character of fire-escapes should be applied to the school and other buildings under the control of the Commissioners, and the detailed and total cost thereof;

(2) What should be the character, dimensions, position, etc., of the kinds of fire escape to be applied to the several other buildings named in said act.

The board will meet at the office of the inspector of buildings at 11 o'clock, a. m., on Monday, the 21st instant, and report as soon thereafter as practicable.

FEBRUARY 25, 1887.

Ordered, That section 6 of the building regulations is hereby amended by the addition of the following: "and such permit shall be valid and in force for such period, in each case not exceeding eighteen (18) months, as the inspector of buildings shall determine and inscribe upon the face thereof.

MARCH 2, 1887.

Ordered, The inspector of buildings will not issue permits for any construction to be used in connection with a business requiring a special license, until such time as the applicant shall present the license to accompany his application.

MARCH 2, 1887.

Ordered, That in pursuance of the act of Congress approved January 26, 1887, all holders of real estate agents' licenses for the current license year ending October 31, 1887, shall pay \$25, on or before the 15th day of March, 1887, in addition to the sum heretofore paid for such licenses, which shall be in full of all such real estate agents' licenses and taxes from the date of the approval of said act, and in default of such additional payment said license will be canceled.

(2) All persons liable for real estate agents' license tax who have not paid such license tax shall be charged at the rate of \$50.

MARCH 5, 1887.

Ordered, The requisite proceedings having been taken by all the owners of square numbered 674 in conformity to the act of Congress entitled, "An act to authorize the changing of alley-ways in the city of Washington," approved July 6, 1882, so much of the old alley-ways in said square as the petitioners ask to have closed is closed as prayed for, and as is indicated for that purpose in the plans hereto attached (L. R., 135, 574), and the new alley-ways proposed by the petitioners to be

substituted therefor as indicated in said plan, are declared open as public alleys; both the changes herein ordered to take effect as of November 7, 1882.

MARCH 14, 1887.

Ordered, The inspector of buildings of the District of Columbia will hereafter have charge of the numbering of houses in the District in conformity with the law on the subject, and in issuing permits will instruct the builder to have proper numbers put on the building.

MARCH 17, 1887.

Ordered, That before any supplies are ordered or purchased or any indebtedness is incurred by any branch or department of the District government chargeable against any item of appropriation, a requisition, upon which shall be shown the state of the appropriation from which the expense is to be met, accompanied by an exact or approximate estimate of the amount of the proposed expenditure, must be made and submitted in each case, and be approved by the Commissioners or a majority of them.

MARCH 23, 1887.

Ordered, That in view of the increasing dimensions and complexity of the sewer system and of the necessity for the planning and construction of new works, as well as considerable modifications of those now in service, there is hereby erected a sewer department to be in charge of a superintendent of sewers.

The sewer department will have supervision under the direction of the engineer commissioner of all matters relating to the planning, construction, cleaning, and repairing of sewers and their appurtenances.

MARCH 24, 1887.

Ordered, That hereafter when application is made for a building permit, the inspector of buildings will require payment of the water charges for building and certify the same to the water office on the day of issue.

MARCH 29, 1887.

Ordered, (2) In compliance with the provisions of the act of Congress of July 15, 1882, requiring that the water rents be so regulated as to meet the expenses of the water service, the water charges for domestic purposes will hereafter be as follows:

On all tenements two stories high with a front width of 16 feet or less, \$3.50 per an. um.

For each additional foot or fraction thereof, 25 cents.

For each additional story or part thereof, one-third of the charge as computed above.

(3) That hereafter the building regulations relating to wood and coal yards shall be so construed as to except from their provisions cases where parties have upon their premises for sale in small quantities, by retail, not exceeding 3 tons of coal and 1 cord of wood sawed and split, and parties are hereby authorized to keep in store and for sale quantities of the articles mentioned to the limit above mentioned, but

not beyond this, unless a permit be first obtained from the inspector of buildings.

(4) That in the preparation by the engineer department of specifications and blank forms of proposals for street improvements under the act making appropriations for the support of the government of the District of Columbia for the fiscal year ending June 30, 1888, provision be made for inviting bids covering the construction of street pavements, with the usual five years' guaranty as required by law, and in addition thereto the continued maintenance of these pavements for an additional period of fifteen years at a certain price per square yard per annum. The specifications will distinctly stipulate that in case the proposals for maintenance during the fifteen-year period be accepted by the Commissioners, and contract be made in pursuance thereof, the payments for maintenance in any year during that period shall be conditioned upon suitable appropriations being made by Congress for that year. The bonds to be furnished by the contractor shall be renewed at the beginning of each service of five years and shall be finally released upon the expiration of the full twenty years from the date of contract.

APRIL 1, 1887.

Ordered, (2) That Commissioner William B. Webb is hereby chosen president of the Board of Commissioners of the District of Columbia for the year beginning this date, and Commissioner Samuel E. Wheatley acting president of said Board for the same period.

APRIL 2, 1887.

Ordered, (8) The Commissioners being satisfied that good will be accomplished by a careful investigation into the methods of keeping the accounts and making the entries in the books kept in the offices of the auditor, the assessor, and the collector of taxes of the District, with a view to the improvement and simplification of such methods, and to the end that such methods of accounting and of keeping the books and records in said offices may be simplified and reduced to one complete and uniform system, and that all proper checks may be applied thereto, and it appearing also that it is very material to the interests of the citizens of the District and to the collection without unnecessary delay of all arrearages of taxes that such arrearages should be posted from the books in which they are now contained and which are very numerous, into one or two ledgers properly prepared therefor, and in such form as will show what such arrearages consist of and against what property specifically they are chargeable, it is

Ordered, That Commissioner Samuel E. Wheatley be, and he is hereby, appointed a committee of the Board of Commissioners to make a complete and thorough investigation into all the books and records kept in the said several offices, and for that purpose may call to his assistance such persons as he shall deem fit and proper, and shall make report to the Board of the results of such investigations, with such recommendations as shall seem to him best calculated to promote the efficiency of the said several offices of the auditor, assessor, and collector of taxes, and to insure a safe, simple, and uniform method of accounting for the revenues collected on behalf of the District of Columbia, of keeping the proper books and entries relating thereto, and also the best plan for posting all arrearages of taxes in such manner that the amount of said

arrearages and the penalties thereon, the person against whom and the property on which they are chargeable, may be ascertained with accuracy and facility.

The Commissioners believing that it will be best that a full, complete, and careful examination of the laws relating to the assessment and collection of taxes in this District should be made, to the end that such legislation may be suggested to the Congress of the United States as will make such assessment and collection more simple and effective, it is hereby

Ordered, (9) That Commissioner Webb be, and he is hereby, appointed a committee by the Board of Commissioners to examine carefully the existing laws relating to the assessment of taxes in the District of Columbia, and to the collection of said taxes, and the methods pursued in making such assessment and collection under said laws; that in so doing he shall inquire into and examine the laws existing in other communities in respect to the assessment and collection of taxes in such communities, and shall resort to all such sources of information as may to him seem best; that he shall reduce to the form of new laws and amendments to existing laws the information thus obtained by him, and shall report the same to the Board for its action.

APRIL 6, 1887.

Ordered, A board to revise the plumbing regulations and to make provision for the examination of applicants for registration as plumbers is hereby constituted.

The board will be composed of the inspector of plumbing, the superintendent of the water department, and Dana C. Barber, inspector of the water department, in conjunction with two master plumbers, to be designated by the Master Plumbers' Association, and to serve without compensation.

The duties of the board will be to consider and prepare a revision of the plumbing regulations, to prepare rules for the examination of plumbers for registration, establishing the proper qualifications, and to examine applicants. The board will hold stated sessions at least once a month, or as much oftener as occasion shall require. The inspector of plumbing will preside at the meetings of the board, and Mr. Barber will act as secretary. The board will have its first meeting at 2 p. m. on Saturday, the 9th instant, at such office in the District headquarters as shall be found most convenient and practicable.

The rules for the examination of plumbers and the establishment of their qualifications will be completed as soon as possible and submitted to the Commissioners for consideration and action.

Thereafter the board will examine all applicants, and make suitable recommendations to the Commissioners in each case.

In the preparation of the revision of the plumbing regulations the board will hold meetings at least once a week, and continue the work until completed for submission to the Commissioners.

(2) In considering petitions for the laying of water mains, which under the provisions of law must represent a majority of the property binding upon the line of proposed pipe, premises which have been already assessed for water-main tax will be credited to the petition.

(3) That all stables for animals employed for livery, hack, express, cab, street-car, draught, sale, dairy, or other business purpose will be charged for water at the rate of 75 cents per stall.

APRIL 8, 1887.

(3) The health officer of the District is hereby instructed to refuse to issue any permit for interments in the cemetery known as the "Presbyterian," located in the square bounded by Thirty-third, Thirty-fourth, Q, and R streets northwest, in Georgetown, D. C., and the cemetery known as the "Lutheran," located at the northwest corner of Thirty-second and Q streets, in Georgetown.

(4) That so much of the order of the 6th instant as provides for the appointment of two master plumbers to be designated by the Master Plumbers' Association as part of the board thereby constituted to revise the plumbing regulations of the District of Columbia, is hereby amended so as to provide for one representative of said association and one representative of the Master Plumbers' Mutual Protective Association as members of said board.

APRIL 14, 1887.

Ordered, Whereas application has been made by residents of the District to widen Columbia road, between Boundary street and Nineteenth street extended, from 33 feet to 100 feet; to make Garfield avenue of a uniform width of 50 feet; and to extend Connecticut avenue from Oakland avenue to Woodley lane; and

Whereas the route has been surveyed and a plat or map of the same prepared and filed in this office; and

Whereas dedication of a majority of the additional lands needed to carry into effect the purposes of said application has been made, supplemented by donations of subscriptions as a guaranty fund to protect the District against the payment of land damages for lands to be condemned in addition to those dedicated; and

Whereas it is manifestly conducive to the public interests to effect the widenings and extension as above stated; it is

Ordered, That proper proceedings be taken in conformity with the provisions of chapter 11 of the Revised Statutes of the United States relating to the District of Columbia.

(1) To widen Columbia road from Boundary street to Nineteenth street extended to 100 feet;

(2) To make Garfield avenue a uniform width of 50 feet between Columbia road and the proposed extension of Connecticut avenue; and

(3) To open and extend Connecticut avenue from Oakland avenue to Woodley lane.

All substantially as shown upon the plat or map above referred to.

APRIL 15, 1887.

Ordered, That the attorney for the District of Columbia is hereby instructed to institute proceedings necessary to establish the title of the District of Columbia to the land at the head of Fifteenth street west, referred to in the opinion of Assistant Attorney Henry E. Davis of the 11th instant.

APRIL 21, 1887.

Ordered, That a board of examiners composed of A. A. Duly and J. F. Riley, practical engineers, who are respectively recommended by the Washington Association of Stationary Engineers and the Eccentric Association of Engineers of the District of Columbia, and the inspector of

boilers of the District, who shall be chairman of the board, is hereby appointed as required by "An act to regulate steam engineering in the District of Columbia," approved February 28, 1887.

The board will convene at the office of the Engineer Commissioner, District of Columbia, on Sunday, the 24th instant, at 11 o'clock a. m.

(2) That the order of the Commissioners of 28th May, 1886, be amended to read as follows:

At 12 o'clock on each secular day there shall be an executive meeting of the Board of Commissioners for the transaction of such general or special business as may be then ready for action by the board, and two members shall be considered a quorum sufficient for all the purposes of such meetings; but matters specially in charge of any one Commissioner shall lie over in case of the absence of that Commissioner.

Special sessions may be held as often as needful upon the call of the president, or at the request of any member of the board.

(5) It appearing to the Board of Commissioners that it will be best to carry into effect the order of December 20, 1879, concerning the records of special assessments, it is hereby

Ordered, That all records having relation to special assessments of every nature shall be at once delivered to the officer in charge of special assessments to be taken and held in his custody.

APRIL 23, 1887.

Ordered, (2) Under the provisions of the act of Congress approved January 25, 1881, the following regulations are hereby made in lieu of section 5 of the existing plumbing regulations:

After the 31st day of August, 1887, no person shall be allowed to engage in the plumbing business or to do any plumbing work whatsoever relating to the water supply or drainage of any premises in the District of Columbia except a master plumber who shall have duly registered according to the following provisions, or an employé of such registered master plumber, working under said master's instruction, for the proper workmanship of which employé the said duly registered master plumber will be responsible.

All registrations of plumbers heretofore made will become void after the 31st day of August, 1887, and from the date of publication of these regulations no plumber shall be allowed to register until he shall have passed a satisfactory examination by the board constituted for that purpose. This board will be in session for the examination of master plumbers on every Wednesday from 7.30 to 9. p. m., in such office as shall be directed by the Commissioners.

The following will be held as necessary preliminary qualifications of the candidate for registration: To be not less than twenty-one years of age, a citizen of the United States for at least one year immediately preceding his application, and to be certified as a man of intelligence, good habits, and character, in separate letters, from at least three responsible citizens of the District, none of whom shall be a relative of or connected in business with the applicant.

Each candidate for registration shall make application in his own handwriting, addressed to the secretary of the board, stating his full name, residence, and place of business, age, whether married or single, past history, and experience in the plumbing trade or business, with whom he has worked, etc. This application must be accompanied by three indorsements, as above specified. The board will consider each application at the next meeting after its receipt, and if no valid objection be apparent the candidate will be notified when and where to appear for examination.

In the examination the board shall require written answers to such questions as they deem needful, and oral replies in addition, with graphical problems or illustrations on the blackboard, until satisfied as to candidate's fitness, to be determined by a majority vote of the board.

These questions shall be selected so as to test the candidate's ability to understand the plumbing regulations, to comprehend and sketch plans and sections showing the arrangement of pipes and fixtures, and to properly locate, erect, and support the same; also his knowledge of such common laws of physics and hygiene as have relation to the proper and safe methods of supplying water to buildings and removing water and sewage therefrom, and of such other matters as the board shall deem essential to properly qualify him to conduct the business of plumbing.

The secretary of the board will, immediately after each examination, make report to the Commissioners in each case, transmitting the recommendation of the board, accompanied by the application, testimonials, and examination papers of the candidate. Upon the return of these papers to the secretary, he will advise the applicant of the decision of the Commissioners, with instructions to register, if so ordered.

Unsuccessful candidates may repeat their applications after an interval of three months, and if again unsuccessful, at an interval of not less than one year from the date of the second examination.

Before registering the plumber must file a good and sufficient bond in the sum of \$500, to be executed by two householders of the District free of incumbrances to not less than double the amount of the bond, to be approved by the Commissioners, conditioned upon the observances of these and other regulations and laws of the District, and that he will indemnify and save harmless the District of Columbia from all accidents and damages consequent upon or by reason of any opening in any street, avenue, or alley made by him or by those in his employ for any purpose whatever. Said bond shall also be held to guaranty to all persons employing said plumber a strict compliance with these and all other regulations of the District of Columbia. In registering the plumber will sign his name with his business and residence addresses in the register. The names and addresses of his indorsers and bondsmen shall also appear on the register opposite or beneath the plumber's name. He will then receive a certificate of registration signed by the inspector of plumbing, and countersigned by the secretary of the Board of Commissioners.

It shall be the duty of every registered master plumber to display in a conspicuous position on the front of his shop a sign giving his name, followed by the words "Registered Plumber," all with letters not less than 3 inches in size, and also to display his certificate of registration in a conspicuous position within his place of business, and to keep such sign and certificate displayed so long as he shall continue in the plumbing business and his name remain on the register. He will also be required to report to the secretary of the board any change in his business or residence address, and during the last week of June of every year, so long as he shall continue in the plumbing business, to renew his signature upon the register. At the same time his bond will be examined, and, if deemed necessary, a new one will be required.

A list of the names and addresses of all registered master plumbers will be published for the information of the public during the first week of January of each year.

Any person who shall neglect or refuse to comply with the requirements of the plumbing regulations when promulgated shall be punishable by a fine of from \$25 to \$200 for each and every such offense, or in default of payment of fine, to imprisonment for thirty days.

Any plumber found guilty of violation of the regulations shall be required to make good his dereliction to the satisfaction of the inspector of plumbing, and shall be suspended from registration for such period as the Commissioners shall order, and during the period of such suspension no permits shall be issued to him.

After January 1, 1888, the above rules as to examination and registration will apply also to all journeymen plumbers in the District of Columbia, for whom a separate register will be kept.

APRIL 25, 1887.

Ordered, In compliance with the provisions of section 3 of the act of July 14, 1870, water meters of such character and dimensions as are best adapted to the circumstances in each case will be attached to the several service pipes of the premises and establishments designated in the preliminary schedule submitted by the water department.

Due notice will issue to the establishments in question, with information as to the size, cost, and other particulars of the meters to be attached to them.

The charge for water furnished by meter will be at the rate of 10 cents per 1,000 gallons.

APRIL 26, 1887.

Ordered, (2) Under the provisions of the act (Public, No. 92) approved February 28, 1887, the following regulations are provisionally made for the examination and licensing of steam engineers in the District of Columbia:

First. After April 29, 1887, no person shall act or be employed as a steam engineer in the District of Columbia without a license from the Commissioners of the District.

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Second. All persons now in actual charge of steam plant who shall, on or before the date above mentioned, make application for examination and license shall be considered as lawfully employed until such time as action can be had in their respective cases.

Third. Notice will be given in the public prints that all persons in charge of steam plant in the District, with the exception of boilers used exclusively for steam heating by automatic circulation, are required to make immediate application for a District license.

Fourth. Blank forms of application, to be duly filled out in the handwriting of the applicant, will be prepared and printed to the number of 500 copies, and be available for distribution at the office of the board of examiners.

Fifth. Until further orders the board will hold daily sessions between the hours of 6 and 8 p. m., at such office as may be assigned to them at the headquarters of the District, for consideration of applications and the examination of applicants.

Sixth. The applicant for license must not be less than twenty-one years of age, a resident of the United States for at least one year preceding his application, and of temperate habits. He must state in his application his full name and age, whether married or single, his residence, present place of employment, what experience he has had in steam engineering, with whom he has worked, etc., and likewise furnish a general description of the plant in his charge, including dimensions, purposes, and character.

Seventh. Each application must be accompanied by certificates from three responsible citizens of the District, not related to the applicant, that he is a man of intelligence and good character, and is not addicted to the use of intoxicating liquors.

Eighth. Until further orders, the examinations to be held will have in view merely the ascertainment of the candidate's fitness to continue in his present employment, and license will be issued only for the position actually held by him at the date of examination and will terminate on March 1, 1888. For this purpose the board will examine the applicant either at his place of employment or at the office of the board, or both, as they shall determine.

Ninth. Immediately after each examination the secretary of the board will make a report to the Commissioners in each case, transmitting the recommendation of the board, accompanied by the application and indorsements. If approved by the Commissioners, a license will be issued in the name of the applicant, signed by the chairman of the board and countersigned by the secretary of the Board of Commissioners.

Tenth. The board will proceed as expeditiously as possible with the examination of all applicants, and for this purpose may, if deemed advisable, authorize individual members of the board to conduct examinations, the results of which are to be submitted to the full board for approval and then forwarded by the secretary to the Commissioners.

Eleventh. The license fee will be \$3, which must be paid by the applicant before the license will be given him.

Twelfth. Any licensed steam engineer who shall be found under the influence of intoxicating liquor while on duty shall have his license revoked for six months, for a second offense for twelve months, and for a third offense will be disbarred thereafter from employment as a steam engineer.

Thirteenth. Any owner or lessee of a steam plant employing an unlicensed engineer shall be subject to a fine of \$50, and in default thereof, to confinement for one month in the work-house.

Fourteenth. It shall be the duty of the board to examine all steam plant now in service, and to direct the engineer, owner, or lessee, to make such repairs as in the judgment of the board are needful in the public interest. In urgent cases the board is authorized to direct the immediate disuse of the plant until repairs are made, but in all cases under this section report of the facts shall be at once made to the Commissioners of the District.

Fifteenth. In case of any misconduct on the part of a licensed steam engineer which in the judgment of the board, after ascertainment of the facts, shall indicate the necessity of such action, the board may direct the suspension of the license, and make immediate and full report of all the circumstances to the Commissioners for their action.

Sixteenth. Immediately after making the examination provided for in this order, the board will begin the preparation of rules and regulations to govern the practice of steam engineering in the District of Columbia for submission to the Commissioners.

Seventeenth. Until suitable appropriation shall have been made for the maintenance of the services of the board, the necessary expenses shall be defrayed out of the license fees, and such balance as shall remain will be divided among the members of the board.

Eighteenth. The board will make full and accurate record of their proceedings in a book to be furnished them for that purpose.

APRIL 28, 1887.

Ordered, Before permanent appointments to the fire department of the District of Columbia are hereafter made candidates for appointment must serve a probationary term of six months in said department. At the expiration of that period the chief of said department shall make report to the Commissioners respecting the probationer's qualifications for the service.

APRIL 29, 1887.

Ordered, Permission is hereby given to Messrs. Hall and Quackenbush to stand one coach at the southeast corner of Tenth and F streets N. W. on the Tenth street carriage-way from thirty to forty-five minutes before starting, on condition that the beneficiaries shall make suitable provision for the prompt removal of manure from said stand and preventing it from otherwise becoming a nuisance. This permit is subject to revocation at the pleasure of the Commissioners.

APRIL 30, 1887.

Ordered, The provisions of the order of April 26, 1887, requiring applications to be made for examination for license as steam engineer in the District of Columbia are hereby extended so as to include Saturday, May 7, 1887, by which date all persons employed as steam engineers must make application for examination to the board of examiners appointed by the order of the Commissioners of April 21, 1887.

MAY 4, 1887.

Whereas application has been made by the residents of the District to open and extend R street north from Lincoln avenue to Brentwood road; and

Whereas the route has been surveyed and a plat or map of the same prepared and filed in this office; and

Whereas it is manifestly conducive to the public interests to effect the opening and extension as above stated; it is

Ordered, That proper proceedings be taken under section 2 of the act of the legislative assembly of the District of Columbia entitled "An act authorizing the Board of Public Works to condemn alleys in the cities of Washington and Georgetown and roads and streets in the county of Washington," approved August 23, 1871, and acts of Congress, to open R street north from Lincoln avenue to Brentwood road, in the county of Washington.

(2) Previous to registering as a registered plumber, after due examination and approval, the plumber so registering will be required to deposit with the collector of taxes, District of Columbia, \$3 as a registration fee and take receipt therefor. Until further orders the fees so collected will be held by the collector as a special deposit, subject to the order of the Engineer Commissioner, to defray necessary expenses in connection with the service.

MAY 7, 1887.

Ordered, Referring to the list submitted by the water department of property which, upon careful examination of the books, appears to have become liable for water-main tax of which no evidence of payment exists on the records of the department, a notification to each of the

premises in question will be issued showing the amount of tax for which they are severally liable, with request that the taxes be paid, or cause shown why it should not become a lien, return to be made in thirty days.

MAY 14, 1887.

Whereas section 5 of the act of June 11, 1878, requires that street railway companies shall bear the cost of street pavement and repairs for the space between the outer rails of the tracks, and for a distance of 2 feet adjacent thereto, and further provides that in crossing any street or avenue, the pavement shall conform to that used upon the intersecting street: It is therefore

Ordered, That in paving or repairing railway tracks at street intersections the pavement for which the railway company is responsible shall conform to that of the intersecting street, if improved, from building line to building line thereof.

(2) That when repairs of the pavement exterior to railway tracks are required, the 2-foot strip adjacent to the outer rail shall be paved as required by the order of the Commissioners dated November 12, 1886, and the retention of the 2-foot granite block exterior to the outer rail shall only hold good for that side of the track upon which the use of an additional horse is necessary.

Whereas the citizens interested in the church known as Saint Mary's Chapel, in the city of Washington, have so requested: It is

Ordered, (3) That hereafter the alley way in square numbered 42, leading from the west side of Twenty-third street, between G and H streets northwest, along the wall of St. Mary's Chapel, shall hereafter be known as St. Mary's lane, and that the alley running north and south in said square shall hereafter be known and designated as St. Mary's court.

4. What is now known as the Seventh street road, from Boundary street to the District limit, will hereafter be known and designated as Brightwood avenue.

(7) The rules and regulations for the government and discipline of the Metropolitan police force, District of Columbia, are hereby amended by the addition of the following rules governing the patrol service:

The station-keepers will keep a faithful record of all reports received by them over the telephone, noting carefully from whom and the exact time when received.

In case of an urgent alarm when the wagon is absent on other duty, the station-keeper will notify the station-house having a wagon most convenient to the location of the alarm.

Such officer as the lieutenant may detail shall have charge of the patrol-wagon, and will be held responsible for avoidable injury to the wagon, horse, or harness.

The officer in charge will be held strictly accountable for the conduct of the driver or any detail under his charge.

It will be his duty to report to the lieutenant of his precinct any misconduct or inattention to duty on the part of the driver or officers in his detail, and any injury to the stock, harness, and apparatus in his charge.

The gong attached to the wagon will not be struck except when a crowded thoroughfare necessitates it, as in case of fire, etc.

The patrol-horse will not be driven faster than a trot unless the officer giving an alarm signifies that the case is urgent.

The side-lamps should always be in order and in their places, and be lighted after sundown.

The horses, wagons, harness, and apparatus will be carefully examined each day before being used.

In case of alarm the driver will always retain his seat, and the officer in charge dismount and receive from the officer on the beat the person to be conveyed.

Should the patrol-wagon be required to remove an injured person or persons to their homes or to a hospital, the officer in charge will acquaint his station with the

facts, from the nearest box, on returning therefrom, and receive any order or alarm that may have been given during his absence.

No person other than members of the force on duty, and such persons as they may have in charge, will be permitted to occupy the wagons at any time. Officers are prohibited from riding on the steps.

The patrol-wagons are designated for but one purpose, and must not be used for errands or for calls at police headquarters, except when necessary.

MAY 21, 1887.

Ordered, (2) That the several street-railroad companies shall provide suitable and sufficient bridges or jumpers to protect the hose of the fire department from injury while in service at a fire, whenever the same shall cross any of the rails of said companies, and no street-car will be permitted to cross any such hose without such protection.

MAY 25, 1887.

Ordered, Richard A. O'Brien, a journeyman plumber, of 1335 Four-and-a-half street southwest, is hereby appointed an additional member of the board for the examination of plumbers and revision of the plumbing regulations.

MAY 28, 1887.

Ordered, (4) The building regulations are hereby amended by the addition of the following to section 3 thereof:

19. He shall have full authority to designate and direct the numbering of all buildings, and to order changes to be made in the numbering of any building already numbered, when needful; and any person refusing to number or renumber as directed by the inspector within such time as he shall order, shall be liable to the penalties for failure to comply, as provided in section 36 of these regulations.

JUNE 10, 1887.

Ordered, That paragraph 190 of the order of July 15, 1885, prescribing the manual of the Metropolitan police of the District of Columbia, is amended as follows, and all orders or parts of orders inconsistent herewith are hereby revoked:

A leather swivel baton 10 inches long shall be carried on duty concealed from sight.

The baton to be carried on special dress occasions shall be of rosewood, 22 inches long and scant $1\frac{1}{4}$ inches in diameter.

The baton for day duty shall be of rosewood, 18 inches long and scant $1\frac{1}{4}$ inches in diameter.

The baton for night duty shall be of locust or hickory, 22 inches long and scant $1\frac{1}{4}$ inches in diameter.

Belts shall always be worn with the overcoat and on special dress occasions when so ordered by the major.

Privates while on day duty on the principal avenues and streets, which shall be designated by the major, shall wear white thread gloves in the summer season and dark gloves in the winter season.

The hats shall be the helmet crown, 6 inches high, New York pattern, with brim 24 inches wide, of light felt for the summer season and black felt for the winter season.

(2) So much of the order of September 3, 1886, as relates to the carrying of a small black rattan cane and dispenses with summer fatigue uniform coat is hereby revoked.

Ordered, by the Commissioners of the District of Columbia, that, under and by virtue of the authority and power conferred upon the said Commissioners, by, among others, an act of the Congress of the United States

approved January 26, A. D. 1887, the following regulations be, and they hereby are, made and declared as police regulations in and for the said District, namely :

ARTICLE I.

PAWNBROKERS, JUNK-DEALERS, AND PERSONS ENGAGED IN THE SECOND-HAND CLOTHING BUSINESS.

SECTION 1. Every pawnbroker, junk-dealer, or person engaged in the second-hand clothing business shall keep, at his place of business, a book or books in which shall be fairly written, in English, at the time of each loan or transaction in the course of his business, an accurate account of such loan or transaction (except in the case of junk-dealers as to the purchase of rags, bones, old iron, and paper), setting forth a description of the goods, articles or thing pawned, purchased, or received on account of money loaned thereon or paid therefor; the time of receiving the same; the name and residence of the person pawning, selling, or delivering the same; the terms and conditions of loan, purchase, or receipt thereof, including the period for which any such loan may be made, and all other facts and circumstances respecting such loan, purchase, or receipt; which said book or books shall, at all times between the hours of seven o'clock a. m. and eight o'clock p. m., be open to the inspection of the major of police or any officer of the Metropolitan police force of the District of Columbia by him authorized in that behalf.

SEC. 2. Every pawnbroker, junk-dealer, or person engaged in the second-hand clothing business shall every day, except Sunday, before the hour of 11 o'clock in the forenoon, deliver to the major of police, on blank forms to be prescribed by the Commissioners of the District of Columbia, a legible and correct transcript from the book or books provided for in the preceding section, showing the description of all and every article or thing received by him, whether by sale, or in pawn or pledge, the business day immediately preceding (except in the case of junk-dealers as to the purchase of rags, bones, old iron, and paper), together with, in the case of pawnbrokers, the number of the pawn ticket issued therefor, the amount loaned thereon, and the name, residence, and description of the person making the pledge; such transcript, in the case of business done on Saturday, to be delivered, as aforesaid, before 11 o'clock in the forenoon of the following Monday.

SEC. 3. That no property of any kind received on deposit, purchased, or pledged by any pawnbroker, junk-dealer, or person engaged in the second-hand clothing business, shall be sold or permitted to be redeemed or removed from the place of business of such pawnbroker, junk-dealer, or person engaged in the second-hand clothing business, for the space of twenty-four hours after the transcript and statement provided for in the preceding section shall have been delivered, nor shall such property be disfigured or its identity destroyed or affected in any manner whatsoever, so long as it continues in pawn, or in the possession of such pawnbroker, junk-dealer, or person engaged in the second-hand clothing business.

SEC. 4. It shall be the duty of every pawnbroker, junk-dealer, or person engaged in the second-hand clothing business, and of every person in the employ of such, to admit to his premises, at any time between the hours designated in section 1 of this article, any member of the Metropolitan police force of the District of Columbia, as aforesaid, to examine any pledge or pawn book or other record on the premises as well as the articles pledged, purchased, or received, and to search for and take into possession any article known by him to be missing, or known or believed by him to have been stolen, without the formality of the writ of search warrant or any other process, which search or seizure is hereby authorized.

SEC. 5. That every pawnbroker, junk-dealer, or person engaged in the second-hand clothing business shall be liable to all the penalties, hereinafter provided, for violations of any of the provisions of this article, whether such violations be committed by himself or by any one, his agent, clerk, or employé.

SEC. 6. Every person, as hereinbefore provided, who shall be convicted of violating any of the provisions of this article shall, for the first offense, forfeit and pay a penalty not exceeding \$25, and for a second or other subsequent offense, pay such penalty, and, in addition, forfeit his license, in the discretion of the Commissioners of the District of Columbia.

ARTICLE II.

INFLAMMABLE SUBSTANCES.

SECTION 1. No crude or refined petroleum, benzine, naphtha, turpentine, gasoline, or other highly inflammable oils or substances shall be stored in any frame building or structure, or in any yard, or on any avenue, street, alley, sidewalk, parking, park, intersection, reservation, or public space within the District of Columbia; and all

such articles and substances shall be removed by the consignee thereof from railroad depots or other places of consignment within twenty-four hours after notice of the arrival of the same.

SEC. 2. It shall be unlawful for any person to store or hold within any building in the District of Columbia, in any quantity whatsoever, any oil or any fluid made from petroleum or its products which will flash or give off an inflammable vapor at a temperature below 120 degrees Fahrenheit, or have a density below 49 degrees Réaumur. The chemist of the District of Columbia shall make the inspections and apply the tests provided for in this section.

SEC. 3. It shall be unlawful for any person to store or keep for sale in the District of Columbia any inflammable oil or fluid composed wholly or in part of petroleum or any of its products, or any other highly inflammable fluid, without an annual license therefor first obtained from the Commissioners of the District, as provided in this article. Every person desiring such license shall make application therefor in writing to the said Commissioners, which application shall state the place, building or part of building in which the applicant desires so to store or keep such articles or any of them; and the said application shall be referred to the inspector of buildings and the chief engineer of the fire department of the District, who shall within one week examine the place or building described in the application and report in writing to the Commissioners their opinion as to the propriety of granting the license applied for. The fee for such license shall be \$3, which shall be paid to the collector of taxes of the District, to be applied to the expenses of issuing such license and the inspections provided for by this article.

SEC. 4. Every such license, when granted, shall begin and end with the fiscal year, and shall contain the name of the person licensed; a statement whether it is for storing or keeping, or both, the said articles or any of them; a description of the place, building or part of building for which the license is granted, and any limitations which the Commissioners may in each case see fit to impose upon the quantity of said articles, or of any of them, which may be stored or kept, or upon the manner of storing or keeping the same.

SEC. 5. A person holding such a license may store or keep said articles, or any of them, according to the terms of his license, either on his own account or on account of any other person. Every person so licensed shall allow the fire marshal of the District, or such other person as may be designated by the Commissioners, to enter the premises described in his license and to take such samples of said articles and make such examinations of the said premises as the said fire marshal or other person aforesaid may deem expedient.

SEC. 6. No license will be granted for storing or keeping said articles, or any of them, in any part of a building occupied in whole or in part as a dwelling-house, or upon any floor of a building above the first floor, or upon such first floor unless the foundations and walls of the building are of brick, stone, or iron, and the sills or walls are built without apertures for a space of at least one foot above such floor; and no license will be granted for storing or keeping crude petroleum, naphtha or gasoline in any part of a building above the cellar unless said articles are contained in metallic vessels securely closed.

SEC. 7. No license will be granted for selling or keeping for sale at retail, for illuminating purposes, kerosene, refined petroleum, or any product of petroleum which has not been inspected by the chemist of the District, as provided in section 1 of this article.

SEC. 8. Whoever, without a proper license therefor as hereinbefore provided, shall store or keep any of the articles aforesaid shall forfeit and pay a penalty of not less than \$10 nor more than \$100; and a violation of any of the terms of any license issued under this article shall work a revocation of the same, and the Commissioners may at any time revoke any such license for other cause.

ARTICLE III.

LICENSED VENDERS ON STREETS AND PUBLIC PLACES.

SECTION 1. No licensed vender shall erect or occupy a stand upon or in any of the places hereinafter mentioned in section 1 of Article VIII, nor shall any such vender ply his trade or solicit custom upon or in any such places between the hours of 10 o'clock p. m. and 7 o'clock a. m., nor at any time to the interference with traffic or the annoyance of residents of the District or passers-by, nor shall he in any such places as aforesaid cry his wares in such manner or at such times as to disturb the peace of any resident of the District.

SEC. 2. Every vehicle and everything pertaining thereto used by a licensed vender shall at all times be maintained in a clean and orderly condition, and no portion of the contents thereof shall be thrown, spilled, or deposited upon the street.

SEC. 3. For every violation of any of the provisions of this article the party offending shall forfeit and pay a penalty of not less than \$2 nor more than \$10, and in addition forfeit his license in the discretion of the commissioners.

ARTICLE IV.

DISPOSITION OF VEHICLES.

SECTION 1. The major of police shall, from time to time, under the direction of the said Commissioners, establish, declare, and designate stands for vehicles on the streets or other public places within the District, together with the number and kind of vehicles which may occupy such stands and the hours within which such stands may be used by the same, and no vehicle shall occupy such stands except in accordance with the instructions and regulations of the major of police in that behalf.

SEC. 2. Vehicles occupying public stands shall be arranged with clear intervals of not less than three feet between them, with the rear wheels of each at a distance of two feet from the curb, and when a public stand is occupied by the full number of authorized vehicles no other vehicle shall loiter or wait near by to take a place thereat.

SEC. 3. Whenever any assembly shall occur involving a collection or congregation of vehicles, all such vehicles, both in delivering and taking up their occupants or those using them, shall keep the curb at the right hand, and while waiting the vehicles shall be so arranged, in not more than two ranks on each side of the street and parallel therewith, as to facilitate their coming up in the proper direction when called for, and for this purpose a space of at least twenty feet shall be left clear in the middle of the street and along the curb at the entrance to the building or place where any such assembly is had. In the case of a street containing one or more car-tracks the ranks of waiting vehicles shall be so arranged as to leave at least eight feet in the clear outside the tracks.

SEC. 4. As a general rule, and always when passing one another, all vehicles moving upon the streets shall keep upon the right side thereof, and in stopping at the curb shall keep it upon the right hand. Any vehicle moving in the proper direction as thus prescribed shall have the right of way over any other. In the meaning and intent of this section, Pennsylvania avenue shall be considered as two streets, separated by the car-tracks, but the general movement of vehicles thereon shall be subordinated to the business of the shops and stores.

SEC. 5. Vehicles for hire, seeking employment, shall not stop or loiter upon any street except at the regular public stands, nor shall they use the north half of Pennsylvania avenue at all, but in moving when disengaged shall pass upon the south half thereof.

SEC. 6. On Fifteenth street west, between New York avenue and Pennsylvania avenue, vehicles going north shall pass on the east half thereof, and vehicles going south shall pass on the west half thereof. No vehicle shall stand upon the east half of said portion of said street for a longer period than is necessary to permit its user to get in or out, nor when waiting do so except next the curb on the west side of said portion of said street or upon some other street. All carts, drays, and similar slow-moving or heavy vehicles, and all hand-carts, push-carts, barrows, and similar vehicles shall move up and down the said portion of said Fifteenth street within the car-tracks and not elsewhere, unless the nature of their business in the street shall require otherwise; and the auxiliary or hill horses of the street-car company shall also move up and down within the said tracks.

SEC. 7. Every driver of a vehicle located on a public stand or engaged at an assembly or congregation, as hereinbefore provided, shall conduct himself in a seemly and orderly manner, and refrain from loud or boisterous talking or other conduct of a disorderly character, and shall, in the exercise of his business, obey and conform to the demands and directions of any member of the Metropolitan police force of the District in conformity with the provisions of these regulations and other requirements of law.

SEC. 8. Any person violating any of the provisions of this article shall forfeit and pay a penalty of not less than \$5 nor more than \$50.

ARTICLE V.

HACK RATES.

SECTION 1. Every public vehicle of what kind soever for hire for the conveyance of passengers on the streets, whether engaged by the passenger upon the street or at any livery stable, shall be considered a hack within the meaning and intent of these regulations.

SEC. 2. The charges for hack service within the limits of the District of Columbia shall not exceed those stated in the following schedule, namely:

	Between the hours of 5 o'clock a. m. and 12.30 o'clock a. m.	Between the hours of 12.30 o'clock a. m. and 5 o'clock a. m.
By the hour:		
For one passenger or two passengers, for the first hour.....	\$0. 75	\$1. 00
For each additional quarter of an hour or part thereof.....	. 20	. 25
<i>Provided</i> , That for multiples of one hour the charge shall be at the rate per hour of.....	. 75	1. 00
For three or four passengers, for the first hour.....	1. 00	1. 25
For each additional quarter of an hour or part thereof.....	. 25	. 35
<i>Provided</i> , That for multiples of one hour the charge shall be at the rate per hour of.....	1. 00	1. 25
By the trip:		
By the trip of fifteen squares or less, for each passenger.....	. 25	. 40
For each additional five squares or part thereof.....	. 10	. 15
<i>Provided</i> , That for multiples of fifteen squares the charges shall be at the rate, for each fifteen squares, of.....	. 25	. 40

Provided, That in the case of a two-horse hack engaged at a livery stable the proprietor or driver thereof may, by special agreement made in advance with the passenger, charge according to such special agreement; not, however, at a rate to exceed \$1.50 for the first hour and 25 cents for every additional quarter of an hour.

In all cases when a hack is not engaged by the hour it shall be considered as being engaged by the trip.

The fare to any point outside of the cities of Washington and Georgetown shall, in all cases, be charged by the hour or part of an hour, and if the hack is dismissed outside the said cities a charge of 25 cents additional may be made.

Each passenger shall be entitled to have conveyed, without extra charge, one trunk or other traveling box or bag: *Provided*, That there be not more than two trunks or other traveling boxes or bags to be conveyed at any one time for the person or persons hiring the hack. If there be more than two trunks, traveling boxes, or bags, the driver shall be entitled to 25 cents for each one additional to the two. Each passenger shall be entitled also to have conveyed, without charge, such other small packages as can be conveniently carried within the hack, and the driver shall load and unload all baggage without charge.

SEC. 3. Every hack shall have permanently affixed to the interior thereof, in a place readily to be seen by the passengers, the foregoing schedule of rates and no other, which schedule shall be printed on heavy white cards, 8 by 10 inches in size, printed in black ink, with full face, double primer Roman type, to be furnished by the major of police.

SEC. 4. In case of any disagreement between the driver and the passenger of a hack the same may be referred by the passenger to the nearest police station, whither the driver shall convey him without discussion or delay, and the decision of the lieutenant of police or other officer in charge of such station shall be conclusive; and in case the passenger is about to leave by railroad, stage, or steam-boat such disagreement shall be summarily decided by the police office or principal police officer on duty at the station or other place of departure.

SEC. 5. Both the driver and the proprietor or lessee of a hack shall be held responsible for any violation of any of the foregoing provisions of this article: *Provided*, That the penalty therefor shall be paid but once; and for every violation of the said provisions the said driver, proprietor, or lessee shall forfeit and pay a penalty of \$5, if the complainant be a resident of the District of Columbia, and \$10 if the complainant be a non-resident, and in addition to this the license of the said hack may, in the discretion of the Commissioners, be revoked.

SEC. 6. If any driver, proprietor, or lessee of a hack shall refuse to convey a passenger at the rates hereinbefore provided the license of the hack may be revoked by the Commissioners.

ARTICLE VI.

DROVES OF ANIMALS ON THE STREETS.

SECTION 1. No person shall drive or conduct sheep, swine, beeves, or other cattle in a loose herd through any city street without a permit previously obtained from the major of police designating the route and time of driving, nor shall any such driving

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or conducting be done except between the hours of midnight and 6 o'clock a. m. No herd or drove shall consist of more than fifteen beeves or thirty sheep, swine, or other cattle, nor follow a preceding herd at a less interval than one square of the city, or be in charge of less than two drovers.

SEC. 2. Horses and mules shall not be driven loosely through any such streets under any circumstances, but may be conducted in droves of not more than six, haltered together and in charge of at least one man holding the halter of the near animal of the drove.

SEC. 3. Horned cattle may be led singly by a rope or halter through any of the streets of the city designated in the following section, or a cow and calf may be so led together if the cow be so secured.

SEC. 4. The only streets upon which any loose herd as hereinbefore provided may be driven shall be, in Washington, Boundary street, Virginia avenue, B street north west of Seventh street west, Fourteenth street west below B, Water street, and M street south, and the unimproved streets adjacent to the river front and connecting the streets above named; in Georgetown, Tenallytown road, Canal road, High street, P street, T street, and Water street.

SEC. 5. No driver or other person driving or conducting any animals hereinbefore mentioned shall be under the age of sixteen years.

SEC. 6. Any person violating any of the provisions of this article shall forfeit and pay a penalty of not less than \$5 nor more than \$10.

ARTICLE VII.

DOGS AND FOWLS.

SECTION 1. No person shall own or keep, in the District of Columbia, any animal of the dog kind which by barking, biting, howling, or in any manner whatsoever, disturbs the comfort or quiet of any person.

SEC. 2. No animal of the dog kind shall be allowed to go at large without a collar and tag, as now prescribed by law, and if he be of a quarrelsome or dangerous disposition he shall furthermore be secured by a chain or cord held in the hand of some person accompanying him.

SEC. 3. No person shall own or keep, within the District of Columbia, any fowl which by crowing, cackling, or in any other manner, shall disturb the comfort or quiet of any person.

SEC. 4. Fowls shall not be permitted to run at large in either of the cities of Washington or Georgetown, and when found at large in either of the said cities may be seized and impounded by the pound master in the same manner as dogs are seized and impounded under existing law: *Provided, however,* That fowls so seized may be redeemed by the payment of 50 cents per head at any time within three days after such seizure, and in default of such payment they shall be sold at public or private sale, and the proceeds of such sale, after the payment of expenses, paid to the collector of taxes for deposit in the Treasury of the United States to the credit of the District of Columbia, as other revenues of the said District.

SEC. 5. Any person violating any of the provisions of sections 1 and 2 of this article shall forfeit and pay a fine of not less than \$5 nor more than \$50, and, in addition, in case of the biting of any person (except upon the premises of the owner of the animal so biting), the animal shall be adjudged to be killed, and on such judgment shall be killed by any member of the police force; and in case of a second violation of any other provision of either of said sections the animal, unless permanently removed from the District of Columbia within twenty-four hours after such second offense, shall so be killed.

SEC. 6. Any person keeping any fowl, as prohibited in section 3 of this article, or permitting any fowl to run at large, as prohibited in section 4 of this article, shall forfeit and pay a fine of not less than \$2 nor more than \$5 for each and every first offense; and in case of a second offense against the provisions of said section 3, the fowl complained of shall, in addition, be adjudged to be killed, and on such judgment shall be killed by any member of the police force.

ARTICLE VIII.

DEPOSITS ON STREETS.

SECTION 1. No person shall throw, lay, deposit, drop, scatter or leave, or cause to be thrown, cast, laid, deposited, dropped, scattered or left, in or upon any street, avenue, alley, highway, footway, sidewalk, parking, or public space in the District of Columbia, any dirt, mud, sand, ashes, gravel, sawdust, shavings, hay, straw, manure, rubbish, litter, sweepings, offal, vegetables, garbage, trees, cinders, or re-

fuse matter of any kind, or any dead animal or putrescible matter of any sort: *Provided*, That the earth and rubbish from excavations, or building débris or material used in the construction of any buildings, may be placed or permitted to lie in the places aforesaid as now authorized by the building regulations of the District of Columbia, or as may be authorized by permit previously obtained from the inspector of buildings.

SEC. 2. No person shall deposit or leave in or upon any of such places as aforesaid any broken glass, crockery, nails, tin or iron cuttings, hoops, hoop-skirts, wagon tires, wire or other articles liable to wound or injure man or beast.

SEC. 3. No person shall, without previous lawful permit, construct, place or leave in or upon any of such places as aforesaid any obstruction to travel, or any deposit which may be dangerous to life or limb.

SEC. 4. No wood shall be sawed or split upon or in any of the said places as aforesaid, nor shall any one place or leave either in or upon the same any wood, coal, cask, grate, barrel, or other goods, wares or merchandise for a longer period than thirty minutes.

SEC. 5. No foul drainage or matter of any sort shall be permitted to flow or be cast upon or into any of the places aforesaid, nor shall any person carry or transport on, over, or through the same any filth, offal, garbage, or offensive matter without a permit previously obtained from the health officer; nor shall any person having such permit leave in or upon any such place any drippings, droppings, spillings, or leakings from his cart or other vehicle.

SEC. 6. No person shall carry or convey in any vehicle any earth, sand, gravel, dirt, ashes, or any loose fluid or offensive articles or matter, or any articles whatsoever, so that the same shall or may be scattered, dropped, let fall, blown, or spilled therefrom.

SEC. 7. No handbills, dodgers, cards, or circulars shall be distributed in or upon any of the places above mentioned in any manner whatsoever, nor dropped in or upon such places, or left upon the parking or door steps of any premises in the District of Columbia.

SEC. 8. Any person violating any of the provisions of this article shall forfeit and pay a fine as follows: For a violation of the provisions of sections 1, 4, 5, 6, and 7, not less than \$5 nor more than \$25; for violation of the provisions of section 2, not less than \$10 nor more than \$50; and for violation of the provisions of section 3, not less than \$10 nor more than \$100.

ARTICLE IX.

LOUD NOISES AND CRIES AND USE OF FIRE-WORKS AND EXPLOSIVES.

SECTION 1. No bell, gong, horn, whistle, drum, or other noise-making article, instrument, or device, whether in the hands of any person or attached to any animal, vehicle, or apparatus, shall be struck or sounded in any of the places mentioned in section 1 of Article VIII of these regulations for any purpose whatsoever, with the exception of the sounding of bells or gongs upon sleighs, or other vehicles on runners and the vehicles and apparatus of the police and fire departments: *Provided*, That street cars on the secular days of the week may continue to use the bells now in service, and bicycles and tricycles shall sound a light bell or gong when in motion after sundown and at all times when necessary to warn persons of their approach: *And provided further*, That church bells and the bells or gongs of tower or other public clocks may continue to be rung as heretofore, unless after specific prohibition by the Commissioners, on complaint, in writing, of annoyance, in case of sickness, to any resident in the vicinity of any such bell or gong.

SEC. 2. No person within the District of Columbia shall make any needless noise or outcry, or any noise or outcry for the purpose of advertising wares or attracting the attention or inviting the patronage of any person for any hack or other vehicle or any business whatsoever: *Provided, however*, That newsboys, in the exercise of their calling, may cry their newspapers between the hours of 7 o'clock a. m. and 8 o'clock p. m. on secular days of the week and between the hours of 8 o'clock a. m. and 10.30 o'clock a. m. on Sunday, and not otherwise: *Provided further*, That newsboys may cry at other necessary hours extra editions of the local newspapers on extraordinary occasions.

SEC. 3. No musical instrument of any sort shall be played in any of the places mentioned in section 1 of Article VIII of these regulations without a permit therefor previously obtained from the major of police. Itinerant musicians, including hand-organists, may be permitted by the major of police to perform on their instruments between the hours of 9 o'clock, a. m. and 9 o'clock p. m. within the limits to be designated in such permit, but not otherwise; and bands accompanying processions shall not play except upon a permit by the major of police, which permit shall designate the route to be followed by such procession and the hours within which such playing may be done.

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SEC. 4. No fire-works or explosives of any kind whatsoever shall be manufactured, stored, kept or used within the limits of the District of Columbia without a license previously obtained from the major of police under direction of the Commissioners, or except in connection with public works under the direction of the officer in charge thereof.

SEC. 5. No gun, rifle, pistol or other fire-arm shall be discharged within the limits of the cities of Washington or Georgetown, or any suburban settlement within the District of Columbia, or in or on any public road or highway within the said District, without a special permit therefor by the major of police: *Provided, however,* That the provisions of this section shall not apply to licensed shooting galleries and similar establishments between the hours of 6 o'clock a. m. and midnight of the secular days of the week.

SEC. 6. Any person violating any of the provisions of this article shall forfeit and pay a penalty as follows: For violation of any of the provisions of the first three sections of this article not less than \$5 nor more than \$20, and for violation of the provisions of section 4 and 5 not less than \$10 nor more than \$50.

ARTICLE X.

MOVEMENTS OF VEHICLES ON THE PUBLIC STREETS AND AVENUES.

SECTION 1. No person having the charge or use of any animal of the horse kind, or other beast of draft attached to a vehicle, shall drive the same upon the public streets or avenues of the District of Columbia at a greater rate of speed than 8 miles an hour, except that upon unpaved streets exceeding 90 feet in width such animal may be driven at a rate not to exceed 12 miles an hour; and no such person shall cause such animal to turn any corner of a city street or avenue at a greater rate of speed than 4 miles an hour.

SEC. 2. No person shall draw or drive upon any footway or sidewalk any vehicle except children's carriages, and except as now permitted by law.

SEC. 3. Sleighs or other vehicles on runners shall have bells so attached thereto, or to the animals drawing the same, as to sound when such vehicle is in motion; and all bicycles and tricycles in motion after sundown shall display a suitable light, and also have a light gong or bell so attached thereto as to be sounded by the revolution of a wheel or wheels.

SEC. 4. Carts and loaded vehicles shall not move abreast upon any street or avenue, but shall follow each other in line; and whenever two or more carriages, carts, or wagons are in motion on any street, avenue, or alley within the District of Columbia, and following each other, the drivers thereof shall maintain a clear interval of not less than 15 feet between every two consecutive carriages, carts, or wagons, including the animals drawing the same; and the driver of every such carriage, cart, or wagon shall at all times keep either upon the seat thereof or at the head of the animal or team drawing the same.

SEC. 5. No vehicle shall stop abreast of another vehicle upon the street to the obstruction of traffic therein, nor shall any vehicle stop upon a street crossing or upon the carriage way of a street intersection.

SEC. 6. Authorized vehicles of the police and fire departments shall have the right of way in the streets over all others, and the sounding of the bell or gong thereon shall constitute a warning and direction to other vehicles and pedestrians to clear the road.

SEC. 7. No vehicle shall be so driven as to collide with any other vehicle or with any person, and every vehicle shall make way for pedestrians at the street crossings.

SEC. 8. All vehicles traveling between sunset and sunrise shall display lighted lamps on both sides thereof, so placed as to be visible from the front, sides, and rear.

SEC. 9. No vehicle shall have loose articles hung on the sides thereof, nor any projection beyond the hubs of the wheels, or more than 10 feet in the rear of the rear axle, without a special permit from the major of police. The transporting of telegraph and similar poles and timbers upon any vehicle is forbidden except under permit from the major of police, which shall prescribe the route and time of such transport.

SEC. 10. Processions and parades, except funerals, involving the use of vehicles, shall not be allowed except by permit of the major of police, previously granted, which permit shall designate the time and route of every such procession or parade, and no vehicle shall move in such procession or parade except according to the terms of such permit.

SEC. 11. No vehicle shall unnecessarily obstruct, hinder, or delay the passage of any other vehicle.

SEC. 12. All vehicles conveying foul, dusty, or offensive matters of any sort shall have tight bodies and be closely and securely covered.

SEC. 13. Street cars within the District of Columbia shall have the right of way upon their respective tracks, and no person shall obstruct or delay the movements thereof at the lawful rate of speed hereinafter provided, except the authorized officials of the District of Columbia in the discharge of public duty.

SEC. 14. No street car shall move at a greater rate of speed than 8 miles an hour nor at a less rate of speed than 5 miles an hour when the track is unobstructed, except upon curves and steep grades, when the rate of speed shall not exceed 4 miles an hour; nor shall any street car stand upon a street or avenue for a longer period than five minutes, unless the way be obstructed, nor stop so as to obstruct a street crossing or intersecting street; and no street car shall follow a preceding car moving in the same direction at a less interval than 50 feet, unless coupled thereto; nor shall a street car move nearer to a vehicle in front thereof than 10 feet. Every street car in motion after sundown shall have two lights displayed at each end thereof, and all vehicles moving in streets with car-tracks shall, in general, keep on the right side thereof, between the right side and curb.

SEC. 15. Steam-cars, trains, or engines shall not move upon any street or avenue at a greater rate of speed than 6 miles an hour, and no steam-car, train, or engine shall be stopped or held at a street crossing or intersection so as to obstruct the passage of vehicles or foot passengers for a longer period than is needed for the passage thereof at a speed not less than 5 miles an hour.

SEC. 16. Wherever the grade of a steam-railway track is approximately even with the adjacent surface the line of the road shall be securely closed on both sides with a substantial fence, and all grade crossings or intersections of any steam-railroad track with streets or avenues shall be securely guarded by a suitable gate or guard erected and maintained by the company owning or operating such track.

SEC. 17. Every driver, owner, proprietor, lessee, conductor, engineer, or manager of any vehicle in respect of which provision is made by this article shall be equally responsible for any violation of the provisions hereof: *Provided*, That the penalty for any single violation shall not be paid more than once.

SEC. 18. Every person as aforesaid violating any of the provisions of this article shall forfeit and pay a penalty of not less than \$5 nor more than \$100 for each offense.

ARTICLE XI.

GENERAL.

SECTION 1. In all cases in which any provision of the foregoing regulations forbids the doing of any act without a permit from a certain designated official of the District of Columbia, such official is hereby given the authority to issue such permit without further specific grant of authority.

SEC. 2. In all cases in which any provision of the foregoing regulations prohibits the doing of a certain act the person or persons actually violating such provision and the employers, parents, or guardians of such person or persons, and all other persons concerned therein, shall severally be held liable to the full extent of the prescribed penalty: *Provided*, That such penalty shall be paid but once.

SEC. 3. For the purposes of these regulations the word "person" signifies and includes firms, corporations, and companies; and words of one number signify and include persons and things of both numbers, respectively; and words of one gender signify and include persons and animals of both the masculine and feminine genders; and, except when inconsistent with the manifest intent and meaning of these regulations, the word "street" signifies each and every place or space mentioned in section 1 of Article VIII of these regulations.

SEC. 4. Except as modified or changed by these regulations or any of them, all laws and ordinances heretofore enacted dealing with any of the subjects of these regulations continue in force.

SEC. 5. The foregoing regulations shall be printed in the Washington Post, the National Republican, the Evening Star, and the Evening Critic, daily newspapers published in the District of Columbia, three times a week for one week, beginning on Monday, the 27th day of June, A. D. 1887, and after thirty days after said date—that is to say, from and after the 27th day of July, A. D. 1887—the same shall be enforced as provided by the act of the Congress of the United States approved January 26, A. D. 1877, aforesaid.

Adopted by the Commissioners of the District of Columbia this 15th day of June, A. D. 1887.

W. B. WEBB,
S. E. WHEATLEY,
WILLIAM LUDLOW,

Commissioners of the District of Columbia.

Attest:

WILLIAM TINDALL, *Secretary.*

JUNE 18, 1887.

Ordered, On and after July 1, 1887, all curb stop-cocks to be attached to public water service pipes, and the box or casing for protecting and giving access to the same shall be of the pattern approved by the Commissioners and manufactured for and furnished by the water department. All the stop-cocks shall be tested (to withstand a pressure of 75 pounds to the square inch) and stamped by the water department, and sold to plumbers at prices to be fixed by the Commissioners.

G.

REPORT OF THE ASSESSOR.

ASSESSOR'S OFFICE, DISTRICT OF COLUMBIA,
Washington, September 2, 1887.

GENTLEMEN: I have the honor to present the following statements from this office for the fiscal year ended June 30, 1887:

LICENSES.

	Totals.	Increase.	Decrease.
Apothecaries	\$571.86	\$31.82	.....
Auctioneers	1,280.60	.....	\$16.78
Book agents	395.99	146.71	.....
Brokers	100.00	.....	.....
Banks and bankers	397.63	22.08	.....
Bar-rooms	88,843.57	15,851.69	.....
Brewers	147.92	22.92	.....
Bill-posters	43.34	20.00	.....
Billiard and other tables, etc.	2,315.46	.....	203.03
Commercial agents	4,733.42	.....	8,566.73
Cattle brokers	621.69	.....	73.34
Commission merchants	2,290.03	.....	135.83
Dealers in ice	128.00	14.66	.....
Dealers in liquors (wholesale)	9,556.80	.....	5,765.42
Dealers in junk	1,106.68	.....	253.32
Dealers in old barrels	97.50	27.50	.....
Entertainments, circuses, etc.	2,630.00	.....	220.00
Hacks, cabs, and vehicles	2,584.77	208.34	.....
Hotel	2,756.08	317.40	.....
Intelligence offices	59.18	20.83	.....
Insurance companies and agents	9,068.63	1,272.13	.....
Livery stables	2,951.83	356.33	.....
Manufacturers of illuminating gas	1,072.00	.....	.....
Peddlers	3,055.31	404.84	.....
Pawnbrokers	1,708.34	187.50	.....
Produce dealers at large	6,197.39	.....	780.50
Produce dealers in markets	4,920.90	.....	375.24
Restaurants	4,408.68	185.73	.....
Real-estate agents	9,638.52	5,416.14	.....
Theaters	800.01	.....	75.00
Variety theaters	500.00	500.00	.....
Claim agents, no collections for 1887 .....	.....	.....	15.00
Total	164,982.13	25,006.60	16,480.19
Less .....	.....	16,480.19	.....
Total increase .....	.....	8,526.41	.....

Four thousand one hundred and two licenses were issued during the year, and in addition, 1,250 certificates to the collectors for miscellaneous receipts.

Nine hundred and twenty-two bar-room licenses, and 402 for wholesale liquor, making an increase of 127 bar-rooms and a decrease of 266 places where liquor is sold by wholesale.

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	Receipts from licenses.	Increase.	Decrease.
1878-'79	\$111, 813. 93		
1879-'80	120, 639. 57	\$8, 825. 64	
1880-'81	145, 238. 42	24, 598. 85	
1881-'82	123, 177. 52		\$22, 060. 90
1882-'83	128, 438. 78	5, 261. 26	
1883-'84	134, 181. 61	5, 742. 83	
1884-'85	144, 662. 67	10, 481. 08	
1885-'86	156, 455. 72	11, 793. 05	
1886-'87	164, 982. 13	8, 526. 41	
Total	1, 229, 590. 35	75, 229. 10	22, 060. 90
Net increase		53, 168. 20	

It will be perceived, by a comparison of the various classes of licenses, that there is an increase of receipts from bar-rooms, and a corresponding decrease from "dealers in liquor by wholesale." This is undoubtedly due to a rigid enforcement of law.

There are many portions of the license laws which need revision and additional legislation to make them effective. There has been a tendency in some cases to resort to the courts, solely for the purpose of creating delay in the payment of license taxes. The law should be so plain and the penalties of violation so well defined as to make litigation no longer desirable.

The bond required of "dealers in liquor by wholesale" in "Washington City" should be abolished. It takes valuable time for their scrutiny, subjects applicants to inconvenience, and, when filed, can only become effective by a suit at law. As it is, the holder of a license is prosecuted criminally in the police court for violations of the liquor laws. The power to cancel and annul a license for cause might be re-enacted by legislation.

Without attempting to specify in detail those portions of the license laws requiring new legislation, I beg to call your attention to the clause in reference to "brokers," which is practically void by reason of a proviso relating to "bankers." The acts relating to both classes should be amended.

It has been observed that the "proprietors of boarding-houses" and others who really do a hotel business, only apply for the last-named license when compelled to bring a refractory guest to terms. There should be an act regulating and defining all hotels, taverns, and boarding or lodging houses where transient guests are received; the possession of a license would be a security for both proprietor and guest.

Clauses relating to hucksters and "produce dealers at large" and in the "several markets" should be amended by enlarging the number of classes subject to license, and reducing the amount of tax. At present, the burden of taxation is borne by those who are least able to pay.

Licensed "produce dealers at large" should be required to have both wagons and licenses numbered to correspond, as are the "proprietors of hacks and cabs," etc., at present. It would prevent fraud and identify the dealer.

The tax required of "peddlers" is too large, while the definition of the class should be broader in its scope. Under the present law, it is not believed that over one half the amount due is collected.

While it is desirable that many classes of business should be licensed, there are others upon which this tax should be repealed; notably, contractors and claim agents. There is difficulty in proving violations of law by the former, and the latter resist payment on the plea that they are "attorneys at law."

The percentage tax required of auctioneers semi-annually should also be repealed, and the amount of license increased.

While there are increased receipts from licenses during the last fiscal year, this amount is reduced \$8,566.73 by reason of an adverse decision of the courts in reference to "commercial agents." Since April 1 no licenses have been issued for that class.

It would promote public business by conferring upon the license clerk the power to administer oaths in cases where required under the license laws. The work of this branch of the office is steadily increasing. The enforcement of the new police regulations has imposed the charge of record and issue of licenses to engineers and dealers in inflammable oils.

The subject of licenses and personal taxes demand your immediate and serious attention. The license laws, based upon various ordinances of the late municipalities of Washington and Georgetown and the county of Washington, with amendments by the legislative assembly and Congress, with all of their imperfections, if enlarged to meet all classes of business, are better adapted to meet the requirements of the District as a source of revenue and give more general satisfaction to its citizens than the personal-tax law.

The importance of some law to protect our business establishments from outsiders, soliciting, selling, and delivering goods without paying taxes or licenses of any kind, is urged.

The business interests of our merchants are greatly damaged from lack of proper legislation on this important subject.

The phenomenal growth of our city renders additional legislation on licenses and personal taxes an imperative necessity.

During the past ten years there has been a steady increase in revenue from the liquor traffic. This alone requires constant vigilance and a wise discretion in its enforcement and control. In this period the receipts from this source have nearly doubled; not that the number of business places where liquor is sold have doubled, but the traffic has been brought under better control and reduced to a more legitimate basis.

The issue of licenses involves careful scrutiny, long experience, familiarity with the laws, needs of the community, and great clerical labor. New places of business are opened daily, subject to license and under the present arrangement it is impossible to keep pace with the changes.

The growing importance of this branch demands its assignment as a separate and distinct bureau of the District government, with proper legislation and clerical force to make it efficient.

The duties of the assessor are so dissimilar and laborious, that he can not give proper attention to the licenses and personal taxes, without neglecting the greater responsibilities of the assessments and taxes.

A bureau to attend to the licenses and personal taxes would be the means of collecting a greater revenue to the District, and facilitate the reorganization of the assessor's office, which is also urgently recommended.

CERTIFICATES.

Seven thousand and forty-seven "certificates of taxes" were issued by Assistant Assessor William Morgan to the collector under the act of February 6, 1879; the previous year 5,604 were issued; an increase of 1,443 certificates, and showing a steady increase of transfers of property during the year.

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Statement of the assessed value of the real estate of the District of Columbia on June 30, 1887.

Washington:	
Taxable	\$99,430,297
District of Columbia, property of	2,088,333
United States, property of	103,486,386
Exempt from taxation	5,438,068
	<u>210,443,084</u>
Georgetown:	
Taxable	4,908,345
District of Columbia, property of	165,839
United States, property of	232,987
Exempt	328,488
	<u>5,635,659</u>
County:	
Taxable at \$1.50	3,635,166
Taxable at \$1	3,771,022
District of Columbia, property of	54,600
United States, property of	3,400,311
Exempt	812,078
	<u>11,673,177</u>
Total in the District of Columbia:	
Taxable:	
Washington	99,430,297
Georgetown	4,908,345
County	7,406,188
	<u>111,744,830</u>
Non-taxable:	
United States, property of	107,119,684
District of Columbia, property of	2,308,772
Exempt	6,578,634
Total real	227,751,920
Personal property	10,943,458
Total real and personal	<u>238,695,378</u>

The assessed value of the real estate taxable in the District of Columbia on June 30, 1887, was \$111,744,830, and of personal property \$10,943,458.

AMOUNT OF TAX FOR 1887-'88.

Washington, \$99,430,297, at \$1.50	\$1,491,454.45
Georgetown, \$4,908,345, at \$1.50	73,625.18
County, \$3,635,166, at \$1.50	54,527.49
County, \$3,771,022, at \$1	37,710.22
Total real estate tax	<u>1,657,317.34</u>
Personal, \$10,943,458, at \$1.50	164,151.87
Total real and personal tax	<u>1,821,469.21</u>

The annual assessment of 1887-'88 shows the number and value of new houses taxable:

Washington, 1,943 new houses	\$3,553,100
181 less, torn down, etc	208,700
Georgetown, 82 new houses	168,800
5 less, torn down etc	10,600
County, 304 new houses	318,050
13 less, torn down, etc	4,700

Making the total of houses in the District June 30, 1887:

Washington	\$30,848
Georgetown	2,626
County	3,406

Total	36,880
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This includes all except the Government buildings.

There are in course of erection 9 school-houses, 7 in the city and 2 in the county, to be finished by December 1.

The United States has purchased a site (squares 729, 730, and 731) for the Library Building, and removed all the buildings therefrom. The assessed value of this property, \$290,403, is deducted from our taxable property for 1888; also, \$85,000 Alexandria Canal, Railroad and Bridge Company property, now United States property.

ASSESSMENTS.

I submit herewith the form of a bill, marked A, to correct the mode of assessing.

Our city is no longer a small town, but a great city, and rapidly increasing in population, wealth, and importance. It is due to all that the assessment of real and personal property should be made by competent, reliable, and trustworthy citizens.

This bill proposes the appointment of six subassessors, who shall be selected for their fitness, and, after some experience, will be able to correctly assess.

It is of the utmost importance that real property should be assessed equitably, and this can only be done by skilled and experienced assessors.

Speaking of the assessors who are picked up on the recommendation of friends to get them employment without any regard to their ability or fitness, Colonel Dodge, the late assessor, feelingly observes (Assessor's Report 1879, page 72): "Owing to some incompetent men having been sent out to assess property, many mistakes have been made in locating buildings and in assessing values; in some cases one side of a street being assessed at one-third or one-half less than the other, when the values on both sides of the street are the same. When it is considered that most of these men are of limited education and their pay almost nothing, and that they have the duty of assessing so valuable and various kinds of property, it is not wonderful that their work is so imperfectly done. In order to a better performance of this highly responsible duty, one from which nearly all the revenues of the District are derived, I venture to suggest that there should be appointed six citizens, with respectable compensation, as subordinate assessors, selected for their intelligence, integrity, and industry, who should be permanent residents, centrally located in the districts allotted to them.

"They should give their time to the study of values of property in their districts, take cognizance of all changes by erection, demolition, or removal, deliver the schedules of personal taxes and receive returns of the same as notaries, make regular reports to the assessor's office, and sit at appointed times to hear and determine appeals with the assessor of the District."

I refer particularly to the statements marked B and C, accompanying the bill, which show the defects and inequalities of the present system of assessing and its injustice to the tax-payers, in such a business way, that I need not add another word in favor of the proposed bill or equivalent.

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A COMMISSION TO CODIFY THE LAWS ON ASSESSMENTS AND LICENSES AND COLLECTION OF TAXES.

The importance of clear and simple laws to enable the authorities and tax-payers to understand each other is indispensable to the best interests of the District.

To wait for the codification of *all* the laws seems like "postponing indefinitely" the correction of our tax laws.

The tax laws are so jumbled and confused, spreading over so many years and through different forms of municipal government, that it would be folly to expect Congress to prepare a suitable bill for us. I, therefore, recommend that a commission be appointed to codify *all the laws pertaining to taxes and licenses* and the *collection* of the same, and prepare an assessment or tax bill for submission to Congress.

SALES OF PROPERTY FOR TAXES.

The annual advertising of property on which the tax is due does not accomplish what was intended—the payment of taxes in arrears. Our tax-payers are very prompt in payment of taxes, and compare most favorably with those of other cities, but there will always be a delinquent class, until it is *certain* that when their property is sold, after a certain fixed time, the title will *irrevocably* pass and be indisputable. It is to be hoped that you will be able to secure suitable legislation on this subject this session of Congress.

PAYING TAXES IN TWO INSTALLMENTS.

This method of accommodating tax-payers does not meet expectations; it is the cause of much of the arrears of taxes—people pay the first half, and thinking they have paid the whole of the tax, remain in ignorance, until by advertisement or when the title is searched it is found that the second half is unpaid.

It makes it impossible to examine the ledgers and by comparison with the daily cash receipts see if the payments are duly credited. Before the payments of the first half are received and posted, it is time to arrange the books for receipt of the second payment. It is this system that has caused the tax-books to remain unaudited for such long periods.

The ledgers, where the owners of property receive credit for payment of taxes on each piece of property owned, should be exactly compared with the cash receipts before the end of the current tax year; this, I submit, can not well be done in so large and rapidly growing city and district as ours, with two installments of payments in one tax year.

I respectfully recommend, in lieu of two installments, one payment in the month of November, and as an inducement of prompt payment, make an abatement of 5 per cent. if all is paid in November; make an abatement of 4 per cent. if all is paid in December; make an abatement of 3 per cent. if all is paid in January, and on the 1st of February charge 10 per cent. interest per annum, in lieu of all penalties.

The number of tax-payers of real estate and of open personal accounts on our ledgers are—

Washington City	15,551
Georgetown	1,354
County :	
Agricultural	1,000
Non-agricultural	2,512
Total	20,417
Of personal tax account	3,649
Total	24,066

PLATS OF SUBURBAN PROPERTY.

The changes taking place in the value of real estate in the county, especially that section west of Seventh street road and the Potomac River, and the wonderful increase of its population, has changed the assessment from "the acre" to "the square foot." Several large villages are laid out, and subdivided into lots, where two years ago there were acres of "agricultural" lands.

These subdivisions cause an entire change of our county books, and we have no authentic or official plats of these subdivisions to enable us rightly to determine the ownership or make a correct assessment of quantity or value. It is difficult to conceive how a correct assessment is to be made without plats.

I hope that provision may be speedily made; the cost would not be great, its value incalculable.

B STREET NORTHWEST, FROM SEVENTH TO FIFTEENTH STREET.

I invite your attention to the necessity of action in relation to the 45 feet of ground on the north side of B street northwest, between Seventh and Fifteenth streets. It seems to me that the General Government might be induced to place the title in the present owners, in order that it may be properly used, improved, and assessed. Office letter of June 10, 1879, explains this subject fully.

PERSONAL TAX.

The arguments against this tax in this District have been fully and ably set forth in the reports of my predecessor, especially in his reports of 1879 and 1882, to which reference is invited. The experience of every year since adds to the force of those views.

The personal-tax laws, if not entirely removed, should be promptly amended to suit the changed conditions caused by the growth of the city and low rate of interest. Money can be had here on real-estate security for 5 per cent. To expect to collect $1\frac{1}{2}$ per cent. is preposterous. It is just and proper that loans upon real estate should not be taxed.

FINANCIAL HISTORY.

The need of a correct statement of the financial operations of the different systems under which the citizens of this District have lived is very pressing.

The difficulties of getting up such a statement increase by every year's delay; books, papers, and evidence get misplaced and destroyed in every change. When called upon to give a detailed history of any particular expenditure, which commenced years ago, it has been found impossible to do so in time to be of use or value.

Some years ago, when engaged upon an interesting statement for the Treasury Department, I came across valuable data relating to the early expenditures by our citizens for improvements of the avenues and streets. It was claimed by the authorities, in these papers, that the United States Government ought to reimburse the city of Washington. It was not done. The claim is as just to-day as then.

I believe, outside of its great value as a historical document, such a statement from 1800 to date would prove that the payments by the tax-payers of the District for improvements during this period should

be, in justice, partly borne by the General Government, and would equal in amount the outstanding debt of the District.

CLERKS AND SALARIES.

The clerks in this office have less pay than in any other portion of the District government. Their duties are of the most responsible character. Their compensation is entirely inadequate for their varied and arduous duties. The salaries should be such as would justify the bestowal of all their time and talents upon the proper prosecution of their respective duties in the office, without wandering thoughts upon some outside transactions to enable them to eke out a living.

I submit herewith an estimate for 1888-'89 with the simple remark that as our city grows and the transfers of property by reason of the activity in real-estate transactions are now about 8,000 annually, my estimate is just and proper.

The labors and responsibilities of the assessor's office increase with the progress and wealth of the District.

To secure and retain competent and reliable clerks for this office—and only the best are wanted—sufficient salaries must be given.

Col. Robert P. Dodge, for many years assessor of the District, died on the 21st day of last May, and I was appointed to succeed him on June 1. I can not better testify to his worth as a public officer than by inviting your special attention to his able and exhaustive report of 1879, where most all of the wants and needs of the assessor's office are set forth.

Very respectfully,

ROS. A. FISH,
Assessor.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

ESTIMATES.

ASSESSOR'S OFFICE,
Washington, D. C., September 2, 1887.

GENTLEMEN: The District of Columbia is rapidly increasing in population, improvements, wealth, and importance, as the Federal city, and the labors of its officials increase with its progress. Especially is this the case in the assessor's office. While the work has increased the force has not been increased to meet the demand upon it. In the one item of transfers of property: In 1880 there were about 3,000 transfers; in 1887 there were 7,800, and in 1888 it is estimated there will be near 9,000.

The clerks in this office have become experts, and their services should receive just compensation. The labor of assessing and preparing the books of the county is greater now than it was for the entire District a few years ago.

As nearly all the revenues are derived from the labor of the assessor's office, the more accurately and efficiently those labors are performed the better satisfied will all parties be.

Much property escapes taxation from want of a proper force to assess and collect it.

The District has suffered because this office has not been provided with a proper force of clerks and adequate compensation.

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I have the honor to submit the following estimate for the year 1888-'89, with the hope that it will receive your approval and earnest support:

ASSESSMENT BRANCH.

Assessor.....	\$3,000
Assistant assessor.....	2,000
Assistant assessor.....	1,800
One clerk.....	1,600
One clerk.....	1,400
One clerk and draughtsman.....	1,400
Four clerks, \$1,200 each.....	4,800
One clerk.....	1,000
	17,000

LICENSE BRANCH.

One license clerk.....	\$1,400
One inspector of licenses.....	1,200
One assistant inspector of licenses.....	900
	3,500
One messenger.....	840
Contingent expenses:	
8,000 transfers, at 7 cents.....	560
Forage for horse, repairs, etc., of wagon, etc.....	350
Printing, blanks, etc.....	400
Stationery and miscellaneous.....	290
	1,600
	22,940

In this estimate are included two clerks at \$1,400 each and one at \$1,200, making \$4,000, now appropriated for, on the collector's estimate. These clerks are under the direction of the assessor, and are employed in making out tax books and bills, which labor, after the consolidation in 1879, was transferred from the collector's office to this. These clerks should be on the assessor's roll, as they are under his control, and will diminish the collector's estimate to the extent of \$4,000.

Very respectfully,

ROS. A. FISH,
Assessor.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

A.

AN ACT to levy an assessment of the real estate in the District of Columbia, in the year eighteen hundred and eighty-nine, for purposes of taxation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: The Commissioners shall on the first Monday of January, eighteen hundred and eighty-nine, or as soon thereafter as practicable, divide the District of Columbia into six assessment districts, and appoint a subassessor for each district, who shall receive an annual salary of fifteen hundred dollars each, and be a resident of the district to which appointed.

SEC. 2. The duties of said subassessors shall be to assess all real property in the District of Columbia at its true cash value on the first day of July in each year, and make a return of the same to the assessor of the District, on or before the first Monday in July.

They shall also perform such other duties as may be required by the assessor of the District as will facilitate the business of his office, and shall have power to administer oaths. Each subassessor shall provide himself with suitable office room in his district.

SEC. 3. The Commissioners shall provide an office for said subassessors, and two or more shall be in attendance, daily, to hear and determine complaints made by taxpayers, and if it shall appear that an error has been made in the assessment of land

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or improvements, or that improvements have been injured or destroyed by flood or fire, they may, with a concurrence of a majority of said subassessors and approval of the assessor of the District, correct said error or assessment.

SEC. 4. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed, and all acts relating to assessments and valuations not specifically set forth in this act are hereby declared to be of full force and effect.

STATEMENT B.—Comparative statement from actual business transactions of the Equitable Co-operative Building Association of Washington, D. C., from April 1, 1887, to October 31, 1887, showing the official assessment and a business assessment in Washington City.

Property.		District assess- ment.		Equitable assess- ment.	
Square.	Lot.	Ground.	Improve- ments.	Ground.	Improve- ments.
9	9 and part of 8	\$414	\$100	\$525	\$250
16	24	418	600	627	500
16	W. 20 of 6	288	2,200	432	1,900
19	Subdivision 19	567		1,620	1,500
30	2	798	3,300	2,659	3,300
30	2	798	3,300	2,659	7,850
40	16	1,707		2,626	2,500
41	Part 4	420	600	1,410	500
41	W. 38 of 11	1,246	1,000	1,495	1,000
55	E. 12 of 9	360	500	675	300
72	Part 16	1,192	150	1,986	200
72	S. 20 of 16	1,192	150	1,986	200
75	12 S. 20'	800	700	2,000	1,300
81	15	350	2,000	1,050	1,400
86	0	602	800	1,800	600
91	Subdivision 19 and S. 20	1,370		4,372	
91	Subdivision 22	505		842	
92	E. 28 of 63	336		840	
93	S. 86	1,764		2,940	
100	10	1,704	1,600	2,921	2,400
105	1	3,822	7,000	5,733	6,000
111	27 and 28	4,406		6,332	
121	Subdivision C	782	2,500	3,713	2,500
127	Of S. 15	1,834		2,621	
131	S. 18	604	200	1,007	100
131	Subdivision 18	604	200	1,007	100
133	Subdivision 70	420	600	840	700
139	Subdivision 10	2,544	4,500	3,180	6,000
154	Subdivision 19	475	1,200	814	1,200
157	S. 41	1,712	2,500	2,568	3,500
158	Part 15	2,723		3,890	
161	S. 6	2,531	1,800	3,452	2,000
161	Subdivision 6	1,800	2,531	3,452	2,000
177	Subdivision 22	1,020	1,500	1,700	2,200
179	Subdivision 14	1,435		3,075	
180	Subdivision 68	752	700	1,411	1,200
183	S. 8	4,011	2,500	4,011	2,500
183	Subdivision 8	4,011	2,500	4,011	2,500
190	S. 35	917	2,600	1,667	3,000
190	S. 113	648	2,500	1,800	3,000
193	Subdivision 128	1,112	1,500	1,853	2,000
196	Part 7	1,215	400	1,215	300
197	West 25 of 1	2,438		2,813	
206	118	586	700	1,098	800
206	S. 64	732	700	1,373	1,000
209	Part S. 53	677	400	968	600
209	E. 14' of 48, W. 6' of 49	326	200	457	100
209	E. 23, Subdivision 44	518	400	625	100
211	S. T	2,555		5,109	
227	N. 22 of 8	1,073	3,000	2,475	4,000
234	9	776	500	2,328	600
236	Of 15	1,066	1,600	1,827	2,200
237	S. 165	495	2,000	929	2,000
237	150	576		1,080	
237	149, 150, 152, 153, 154, 155	3,456		6,480	
237	S. 146	576		1,080	
237	Subdivision 3	360	1,000	900	2,000
237	Subdivision 146	576		1,080	3,000
254	W. 23, 24 of 6	7,368	2,000	9,210	4,000
258	14	1,064	2,500	1,239	2,500
263	Subdivision as 12	254	400	445	500

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 185

STATEMENT B.—Comparative statement from actual business transactions of the Equitable Co-operative Building Association of Washington, D. C., etc.—Continued.

Property.		District assess- ment.		Equitable assess- ment.	
Square.	Lot.	Ground.	Improve- ments.	Ground.	Improve- ments.
265.....	Part E. and F.....	\$120	\$700	\$480	\$1,250
265.....	do.....	133	700	534	1,250
265.....	Subdivision 17.....	230	500	384	500
271.....	S. 157.....	189	1,000	302	1,200
275.....	17, 18.....	1,804	600	2,706	1,700
275.....	Part 15.....	865	1,500	1,148	2,200
275.....	M. 21, 3 of 15.....	861	1,500	1,148	2,200
275.....	Subdivision 17 and 18.....	1,804	600	2,706	1,700
279.....	Subdivision of 9, 10, and 11.....	2,125	400	3,188	4,500
281.....	S. 2.....	3,347	.....	5,820	.....
281.....	Subdivision 2.....	3,347	.....	5,820	.....
294.....	10 to 13 In.....	1,920	2,800	4,085	2,700
297.....	Subdivision 10, 11, 12, and 13.....	1,920	2,800	4,085	2,700
297.....	Part of subdivision D.....	1,429	400	2,825	800
325.....	Subdivision 13.....	513	2,000	1,139	4,500
North of 334.....	Subdivision 20.....	460	2,500	919	3,000
334.....	15.....	552	400	920	600
335.....	S. 27.....	460	900	511	1,000
335.....	Subdivision 7.....	666	500	888	1,000
343.....	S. 11.....	812	2,000	1,353	3,000
363.....	S. 31.....	413	1,700	826	2,500
363.....	Subdivision 48.....	578	.....	1,238	400
363.....	Subdivision 48.....	578	.....	1,238	400
365.....	S. 162.....	602	2,100	1,033	1,500
372.....	W. 30, 2 of 17.....	730	400	1,328	2,500
373.....	W. 23, 5 of 2.....	3,000	1,300	3,750	5,300
388.....	13.....	975	200	1,300	200
390.....	32.....	366	600	931	1,500
395.....	S. 15.....	744	1,000	1,860	1,500
395.....	S. 44.....	651	.....	1,116	2,000
398.....	Subdivision 14, S. 16.....	982	800	1,500	1,000
399.....	S. 57.....	545	.....	1,169	.....
399.....	S. 58.....	545	.....	1,169	.....
399.....	Subdivision 58.....	510	2,000	1,168	3,500
405.....	Part 2 and 14.....	1,735	1,500	3,578	1,000
417.....	S. 32.....	443	600	634	700
419.....	45.....	570	200	856	200
445.....	S. 36.....	855	.....	1,140	.....
446.....	Subdivision Q.....	1,013	2,800	1,688	2,500
451.....	S. P.....	877	1,400	1,169	1,400
454.....	Part 5.....	2,352	300	2,351	800
465.....	64.....	1,269	800	2,820	1,200
465.....	Subdivision 64.....	1,269	800	2,820	1,200
465.....	Subdivision 77.....	852	1,800	2,839	1,500
467.....	E.....	301	2,000	783	1,800
West of 484.....	Part 5.....	666	500	968	800
West of 484.....	S. 22 of 5.....	666	500	968	800
494.....	Part 1.....	814	.....	1,356	.....
496.....	Subdivision 31.....	523	400	1,046	400
501.....	Part 13.....	686	1,600	960	2,900
501.....	26.....	906	800	1,176	1,000
502.....	Part 36.....	223	500	370	500
509.....	S. 16.....	428	1,200	570	2,000
514.....	W. 16' 22.....	1,247	600	1,918	800
515.....	Subdivision J.....	564	1,100	705	800
522.....	.....	333	800	333	400
534.....	E 20' 4.....	581	500	697	300
535.....	H and G.....	1,012	2,400	1,518	3,600
536.....	Subdivision 35.....	400	100	640	100
544.....	13, 14, 15.....	3,271	1,500	4,050	2,000
551.....	Part of 6 and 7.....	294	600	420	500
551.....	Of 8.....	322	500	442	700
558.....	Subdivision A.....	879	400	1,256	200
558.....	Subdivision 11.....	268	1,200	595	2,000
561.....	S. 9.....	1,659	1,300	3,111	2,200
561.....	2.....	1,434	1,200	2,608	2,000
561.....	Subdivision 9.....	1,659	1,300	3,111	2,200
564.....	Subdivision 1.....	741	.....	1,140	500
565.....	A.....	1,264	1,200	2,577	5,000
566.....	W. 11.7½ of 3.20.....	616	1,000	684	800
585.....	12 E, 2½ of 13.....	163	200	487	150
587.....	11.....	210	100	280	100
615.....	97.....	432	1,000	1,081	1,200
616.....	Part of 14.....	160	200	450	300

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STATEMENT B.—Comparative statement from actual business transactions of the Equitable Co-operative Building Association of Washington, D. C., etc.—Continued.

Property.		District assess- ment.		Equitable assess- ment.	
Square.	Lot.	Ground.	Improve- ments.	Ground.	Improve- ments.
681	Subdivision 9	\$202		\$161	\$2,000
620	Subdivision 65	358	\$1,500	894	1,200
621	18 of T. 84	492	600	634	700
621	13	2,625		4,200	
621	W. 16 of 2	576		1,152	
623	Subdivision 155	770	2,500	855	2,500
625	Subdivision 4	828	1,200	1,656	1,356
629	Subdivision K	674	1,500	809	1,500
656	10	188	200	282	250
672	11 and 12	576		1,200	
675	Subdivision 211	192	700	239	1,000
676	S. 26	720	1,200	1,152	1,200
694	Subdivision D	475	1,800	791	2,500
694	Subdivision 17	616	4,000	990	4,500
715	Part 7	87	400	174	400
721	Subdivision 62	151	1,200	441	2,000
723	S. 21	241		483	
724	S. of 43	320	350	525	1,000
732	Part 23	1,125	300	2,250	300
732	E. 15 of 23	1,125	300	2,250	300
733	Part 11 and 12	600	600	1,000	1,000
737	Subdivision of 57 and 58	170	800	283	1,200
752	Part of 8, 14, and 7	190	300	437	400
755	Subdivision W	383		959	
755	S. 20 of 4	850	400	2,139	300
779	58 and 59	174		964	
781	Subdivision 3	174	1,400	482	2,000
785	S. 22	401	700	1,002	800
785	Subdivision 22	401	700	1,002	800
791	S. 11	369	300	737	400
806	20 and 21	192		480	
806	do	192		480	1,600
819	Part 15, 5, 7	375	1,800	750	2,500
822	S. 41 of 14	517	400	1,508	500
829	61 and 62	215	500	359	600
833	S. 1	168	1,100	490	1,800
833	12 and 13	252		1,122	4,000
837	2	486	600	1,350	600
840	Of 6	631		1,577	
840	S. 23, 6	725	500	1,812	1,000
841	Subdivision 21	334		759	2,200
846	14	578	800	964	1,000
857	S. 78	107	700	302	1,600
857	Subdivision 78	107	700	320	1,600
859	S. 80 of 5	700		814	
865	Part 31	337	200	1,092	200
866	S. 24	148	1,200	368	2,000
867	25 of 16	511	100	1,192	3,000
868	Part 9	561		1,558	
868	Part (203) 9	561		2,077	5,000
868	Subdivision 29	241	1,100	602	2,500
876	W. 22 of 8	351	800	879	1,500
876	Part 7	733	900	1,628	2,000
876	Subdivision 14	204	600	500	1,200
892	Subdivision 29 and 30	354	700	886	1,000
894	10	571	500	856	500
904	Part 22	545	600	818	600
904	N. 25 of 22	545	600	818	600
904	W. 17 ¹ / ₂ of S 1	311	400	411	500
912	Subdivision 7 and 8	534	800	1,311	1,500
916	S. 17	99	800	248	1,000
928	Part 6	318	500	952	1,000
928	Part 5	341	800	852	1,200
933	S. 47	174	600	434	1,200
949	Subdivision 18N . 29. 8	312	400	453	600
949	5	584	100	1,135	200
972	S. 32	192	900	448	1,800
976	Subdivision 5	500	300	690	400
977	S. 34 of 28	476	1,400	715	2,500
S. of 990	2	260		650	
South of 990	Part of 2	150	1,000	650	1,500
994	Part 6	460	1,500	1,150	4,500
994	Part 3	540		1,440	
994	Part 6	460	1,500	1,150	4,500

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STATEMENT B.—Comparative statement from actual business transactions of the Equitable Co-operative Building Association of Washington, D. C., etc.—Continued.

Property.		District assess- ment.		Equitable assess- ment.	
Square.	Lot.	Ground.	Improve- ments.	Ground.	Improve- ments.
994.....	N. 54' 3.....	\$540	.....	\$1,440	\$200
1000.....	N. 25' of 14.....	199	\$300	597	300
1006.....	Subdivision 12.....	125	300	374	400
1006.....	Part 647.....	138	700	347	800
1010.....	Part 4.....	122	800	245	800
1047.....	W. 47 of 24.....	193	600	482	600
1086.....	Part 14.....	60	200	200	500
Total.....	.....	181,380	183,110	323,902	287,756

STATEMENT C.—County property.

Property.		District assessment.		Equitable assess- ment.	
Square.	Lot.	Ground.	Improve- ments.	Ground.	Improve- ments.
Anacostia.....	561 and 562.....	\$67	.....	\$270	.....
Barry farm.....	1.....	160	\$400	348	\$400
Le Droit Park, 14.....	13.....	378	800	945	1,600
Clagett's subdivision, 29.....	38 and 39.....	76	.....	611	1,700
Benning's road.....	.....	1,500	500	1,750	300
Reservation D.....	32.....	275	800	550	1,200
Le Droit Park, 11.....	8.....	332	.....	554	.....
Girl's Portion.....	.....	1,311	.....	2,622	.....
Meridian Hill.....	S. 32.....	600	800	1,500	1,875
Reservation D.....	S. 32.....	275	800	550	1,200
Lanier Heights.....	51.....	273	.....	1,365	.....
Block 21.....	14.....	126	200	630	100
Columbia Heights.....	6.....	402	.....	2,512	.....
Kealing subdivision.....	33.....	170	700	254	600
Meridian Hill.....	16.....	180	600	1,125	300
Do.....	55.....	327	.....	1,635	.....
Meridian Hill, 8.....	Part 14.....	150	400	300	800
Meridian Hill, bet. 15.....	21 to 25.....	300	.....	750	.....
Mount Pleasant.....	7.....	389	.....	2,432	.....
Metropolis View.....	Part of 36.....	450	400	900	400
Uniontown.....	S. 28 of 150.....	62	.....	155	300
Le Droit Park, 2.....	7.....	375	.....	563	2,500
Barry farm, section 7.....	S. of 1/4 of 23.....	124	300	218	500
North of Brightwood, Girl's Portion.....	.....	1,311	1,200	2,622	2,500
Benning's road.....	Subdivision 65.....	150	400	383	700
Pleasant Plains.....	55.....	327	.....	1,635	.....
Uniontown.....	104 and 105.....	188	400	624	1,300
Mount Pleasant.....	Subdivision John Sherman, lot 6.....	402	.....	2,512	2,500
Barry farm, H. D.....	24.....	248	400	500	400
Gilbert subdivision, block 8.....	Part 1, 116, 15, 14, 13, 12 and 11.....	583	2,500	1,083	3,500
Barry farm.....	Section 9, lot 4.....	300	500	500	800
Subdivision of James Eslin's estate.....	Subdivision 116.....	347	.....	1,700	4,500
Meridian Hill, section 3.....	30.....	148	100	200	600
Subdivision Mount Pleasant.....	63.....	950	.....	950	200
Mount Pleasant, plat 9.....	Subdivision E.....	388	1,100	969	1,600
Block 8.....	E. 20 of 14.....	150	400	300	800
Block 14.....	S. 30 of 16.....	180	600	1,125	300
Block 16.....	E. 1/4 of 2.....	188	.....	563	.....
Block 21.....	14.....	126	200	630	100
Block 29.....	36 and 37.....	252	.....	731	1,400
Total.....	.....	13,807	11,100	39,565	34,275

188 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

STATEMENT C.—County property—Continued.

	Ground.	Improvements.	Total.
District assessment:			
Washington City	\$181, 380	\$183, 110	\$364, 490
County	13, 807	11, 100	24, 907
			389, 397
Equitable assessment:			
Washington City	323, 902	287, 756	611, 658
County	39, 565	34, 275	73, 840
			685, 498
Total			

The assessment of the Equitable is made at two-thirds of the true value, which is \$1,028,247, which shows that the District assessment should be increased 164 per cent. to make it equal to its true value on these properties.

ROS. A. FISH,
Assessor.

STATEMENT D.—Value of personal property in the District of Columbia assessed for taxation from 1877 to June 30, 1888; rate \$1.50 per \$100.

Year.	Assessed value.	Amount tax.	Amount collected.
1877	\$15, 419, 873	\$231, 298. 10	\$171, 612. 61
1878	17, 239, 051	258, 585. 77	154, 837. 28
1879	13, 336, 920	200, 053. 80	163, 364. 80
1880	11, 421, 431	171, 321. 47	115, 577. 78
1881	10, 895, 712	163, 435. 68	205, 866. 45
1882	9, 666, 272	144, 994. 08	137, 837. 56
1883	9, 028, 812	135, 432. 18	142, 973. 38
1884	11, 311, 622	169, 674. 33	157, 441. 55
1885	12, 795, 934	191, 939. 01	166, 360. 48
1886	12, 658, 949	189, 884. 24	160, 006. 92
1887	11, 934, 245	179, 013. 68	154, 287. 74
1888	10, 943, 458	164, 151. 87	.....

Amount outstanding is \$305,465.73 June 30, 1887; little, if any, of this can be collected. Unless the personal tax is collected in the year in which levied, it is almost useless to attempt its collection.

ROS. A. FISH,
Assessor.

STATEMENT E.—Value of real property in the District of Columbia as assessed for taxation from 1871 to 1888, inclusive.

Year.	Washington.	Georgetown.	County.	Total.
1871	\$66, 818, 886	\$6, 213, 467	\$6, 965, 101	\$79, 997, 454
1872	62, 421, 331	6, 036, 434	6, 500, 000	74, 957, 765
1873	72, 880, 380	6, 366, 488	8, 623, 056	87, 869, 924
1874	80, 539, 782	6, 272, 010	9, 621, 280	96, 433, 072
1875	82, 292, 906	6, 312, 099	9, 270, 036	97, 875, 041
1876	78, 818, 934	5, 849, 317	8, 784, 433	93, 452, 684
1877	81, 246, 847	5, 953, 932	8, 728, 622	95, 929, 401
1878	83, 101, 484	6, 028, 041	8, 480, 365	97, 609, 890
1879	75, 555, 801	5, 242, 224	6, 693, 417	87, 491, 442
1880	76, 085, 940	5, 291, 313	6, 603, 103	87, 980, 356
1881	77, 256, 610	5, 282, 096	6, 414, 372	88, 953, 078
1882	78, 515, 793	5, 266, 943	6, 525, 759	90, 308, 495
1883	80, 615, 448	5, 307, 116	6, 611, 101	92, 533, 665
1884	80, 293, 418	4, 013, 888	6, 541, 368	90, 848, 674
1885	82, 825, 255	4, 074, 358	6, 602, 851	93, 502, 464
1886	85, 132, 151	4, 160, 222	6, 760, 956	96, 053, 329
1887	96, 388, 486	4, 741, 540	7, 172, 075	108, 302, 101
1888	99, 430, 297	4, 908, 345	7, 406, 186	111, 744, 830

ROS. A. FISH,
Assessor.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 189

STATEMENT F.—Statement showing amount of tax and amount collected per cent., and amount of arrears from 1873 to 30th June, 1887.

Year.	Amount of tax.	Amount collected each tax-year.	Per cent.	Amount collected subsequently.	Tax outstanding.
1873	\$1,433,427.31	\$1,426,957.27	99.5	\$2,345.16	\$4,124.88
1874	1,888,255.86	1,846,382.75	97.1	18,952.15	22,920.96
1875	2,811,922.38	2,737,826.77	98.0	30,876.39	43,219.22
1876	1,401,790.25	1,377,034.69	98.2	6,141.14	18,614.42
1877	1,438,941.01	1,390,634.26	96.2	8,670.82	39,635.93
1878	1,447,187.67	1,408,571.53	97.3	9,185.10	29,431.04
1879	1,320,612.00	1,271,181.98	96.9	12,170.89	37,259.13
1880	1,297,934.24	1,234,294.35	95.0	13,754.29	49,905.60
1881	1,311,969.34	1,249,166.72	95.2	13,010.33	49,762.29
1882	1,332,268.04	1,266,491.01	95.0	16,377.93	49,399.10
1883	1,365,365.34	1,291,209.59	94.5	20,035.67	54,120.08
1884	1,338,587.34	1,255,329.88	93.0	24,622.65	58,634.81
1885	1,383,489.55	1,266,120.23	91.5	45,932.04	71,437.28
1886	1,421,552.09	1,240,834.51	87.2	91,744.17	88,973.41
1887	1,605,858.09	1,407,574.21	87.6	.....	198,253.88
Total	22,799,160.51	21,669,639.75	.....	313,798.73	815,722.03
Add .....	.....	313,798.73	.....	.....	.....
	22,799,160.51	21,983,438.48	96.4	.....	815,722.03

Rate of taxation from 1871 to 1888, inclusive.

Year.	Wash- ington.	George- town.	County.	
			Suburb- an.	Agricult- ural.
1871-72	\$1.70	\$0.95	\$0.85	.....
1873	1.70	1.70	1.00	.....
1874	2.00	2.00	1.58	.....
1875	3.00	2.50	2.00	.....
1876	1.50	1.50	1.50	.....
1877	1.50	1.50	1.50	.....
1878	1.50	1.50	1.50	\$1.25
1879 to 1888	1.50	1.50	1.50	1.00

The amount (\$815,722.03) outstanding will be reduced in 1888 by the usual collection of the previous year by \$100,000. The penalties and arrears having been reduced to 6 per cent. (act March 3, 1887), the opportunity will be improved by the delinquents, and it is estimated that over \$100,000 of arrears will be paid before the expiration of the time granted, 30th November, 1887.

There is a large amount charged as arrears which has never been deducted on the books, arising from change of property, by exemption to church, charitable, etc., purposes, and purchases by the Government and District. This has been carefully estimated as amounting to \$100,000, so it is safe to place the amount of taxes in arrears at about \$500,000, most of which will be collected as the property becomes valuable enough to be sought after.

ROS. A. FISH,
Assessor.

190 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

G 1.—REPORT OF THE CHIEF OF SPECIAL ASSESSMENT DIVISION.

OFFICE OF COMMISSIONERS DISTRICT OF COLUMBIA,
SPECIAL ASSESSMENT DIVISION,
Washington, September 13, 1887.

GENTLEMEN: I have the honor to submit the following report for the year ending June 30, 1887 :

DRAWBACK CERTIFICATES.

Total amount of drawback certificates found due by revision of the special assessments, under acts of Congress approved June 19, 1878, June 27, 1879, and July 5, 1884, exclusive of amount due to unknown holders of lien certificates not presented	\$954, 197. 20
Total amount of drawback certificates issued	942, 435. 46
Awaiting satisfactory evidence of ownership	11, 761. 74
Amount of such drawback certificates redeemed :	
In payment of general taxes	381, 131. 55
In payment of special assessments	549, 481. 55
Outstanding	11, 822. 36
Total	\$942, 435. 46

EIGHT PER CENT. CERTIFICATES OF INDEBTEDNESS.

Amount outstanding, as per report, to June 30, 1886	\$248, 500. 00
Redeemed in payment of special assessments, as per records of this office, par	\$52, 450. 00
Redeemed by the commissioner of the sinking fund, as per information kindly furnished from his office, par	5, 650. 00
	58, 100. 00
Outstanding, par	190, 400. 00

To which should be added accrued interest at 6 per cent. per annum from maturity. estimated as \$135,600.

UNCOLLECTED SPECIAL ASSESSMENTS PLEDGED TO THE REDEMPTION OF THE 8 PER CENT. CERTIFICATES OF INDEBTEDNESS.

Amount outstanding June 30, 1886, as per annual report	\$405, 503. 64
Collected for account of lien certificates, exclusive of interest. \$63, 193. 11	
Collected for general account, no lien certificate issued	634. 79
	63, 827. 90
Outstanding	341, 675. 74

This statement does not include the accrued interest upon lien certificates held by the commissioner of the sinking fund, nor the amounts charged to the several street railroad companies which remain unpaid upon the records of this office.

LIEN CERTIFICATES NOT HELD BY THE COMMISSIONER OF THE SINKING FUND.

Amount of outstanding lien certificates issued by the late Board of Public Works and not held by the commissioner of the sinking fund, for the redemption of which there are outstanding special assessments (for detailed statement see Appendix I), par	\$80, 828. 43
Amount of outstanding lien certificates subject to redemption in drawback certificates upon presentation and demand (for detailed statement see Appendix II), par	301. 97
Total outstanding lien certificates, exclusive of interest	81, 130. 40

The act of Congress approved July 5, 1884, in connection with the act approved June 19, 1878, has enabled this office to effect a settlement with the holders of these lien certificates for the amount of the reduction by revision of the assessments, with the exception of the \$301.97 above stated, which lien certificates are held by owners who have not made themselves known to the office.

The amount of drawback certificates received for account of the sinking fund, and after examination transmitted to the auditor of the District of Columbia, in accordance with orders dated April 17, 1880, July 1, 1880, and March 8, 1881, during the year was \$907.18, a detailed statement of which will be found in Appendix III.

The amount of lien certificates held by third parties, settled by payment and surrender, was \$12,673.62, interest included, a detailed statement of which will be found in Appendix IV.

Very respectfully,

WM. OSCAR ROOME,
Chief of Special Assessment Division.

APPENDIX I.—Statement of outstanding lien certificates issued by the late Board of Public Works and not held by the commissioner of the sinking fund.

Number of lien.	Amount.	Number of lien.	Amount.	Number of lien.	Amount.
5.....	\$187.08	603.....	\$182.56	1527.....	\$107.37
50.....	37.35	609.....	43.73	1528.....	107.37
51.....	130.72	616.....	28.05	1529.....	107.37
177.....	99.49	621.....	47.56	1530.....	107.37
181.....	316.08	622.....	31.92	1531.....	107.37
182.....	171.80	624.....	40.93	1533.....	107.37
189.....	27.01	630.....	8.67	1534.....	107.37
200.....	177.16	631.....	25.07	1535.....	107.37
206.....	396.03	632.....	22.50	1536.....	107.37
279.....	97.40	633.....	47.56	1537.....	107.37
280.....	173.61	645.....	42.69	1538.....	107.37
341.....	84.69	646.....	38.47	1539.....	107.37
347.....	399.11	647.....	38.47	1543.....	5.91
353.....	34.21	648.....	37.88	1564.....	132.19
354.....	60.98	674.....	836.55	1565.....	273.57
414.....	72.97	693.....	384.39	1566.....	273.57
421.....	61.53	703.....	105.57	1594.....	118.02
484.....	195.56	777.....	166.57	1613.....	106.21
485.....	22.62	778.....	45.18	1621.....	102.96
486.....	369.88	802.....	252.02	1637.....	356.07
487.....	122.20	803.....	252.02	1660.....	147.51
488.....	225.63	833 (vol. 19977).....	358.02	1671.....	777.38
496.....	134.36	838.....	172.32	1672.....	590.03
500.....	46.17	839.....	665.58	1680.....	936.31
507.....	48.10	910.....	161.39	1681.....	289.38
521.....	35.11	914.....	131.42	1682.....	404.47
522.....	18.04	969.....	135.01	1787.....	87.53
523.....	13.99	982.....	147.06	1903.....	82.33
525.....	55.46	990.....	109.42	1932.....	181.04
533.....	49.53	991.....	222.34	1933.....	121.25
534.....	145.51	1004.....	542.60	1939.....	122.15
535.....	22.19	1021.....	642.60	1940.....	122.16
539.....	124.27	1114.....	89.03	1979.....	291.93
540.....	92.31	1119.....	58.48	1982.....	158.88
541.....	43.01	1120.....	156.71	1997.....	264.27
542.....	43.02	1142.....	130.74	2006.....	99.91
546.....	124.37	1146.....	64.39	2013.....	138.44
557.....	52.77	1147.....	89.34	2014.....	153.51
571.....	44.49	1148.....	148.70	2015.....	517.53
572.....	44.77	1178.....	174.74	2016.....	89.00
573.....	44.77	1179.....	123.20	2019.....	134.33
587.....	49.53	1217.....	947.11	2020.....	158.88
588.....	34.98	1243.....	30.37	2021.....	153.53
591.....	79.86	1302.....	432.02	2026.....	139.15
592.....	40.01	1377.....	231.41	2034.....	498.37
593.....	28.30	1378.....	771.53	2035.....	93.36
600.....	38.48	1514.....	224.20	2036.....	93.82
602.....	69.46	1526.....	107.88	2041.....	117.23

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APPENDIX I.—Statement of outstanding lien certificates, etc.—Continued.

Number of lien.	Amount.	Number of lien.	Amount.	Number of lien.	Amount.
2057.....	\$109. 12	2666.....	\$116. 40	6038.....	\$94. 25
2059.....	123. 91	2762.....	70. 32	6042.....	160. 20
2094.....	132. 66	2763.....	4. 71	6043.....	52. 98
2097.....	228. 77	2786.....	351. 60	6044.....	114. 32
2098.....	249. 32	2789.....	461. 51	6053.....	9. 13
2103.....	285. 44	2813.....	74. 28	6056.....	9. 14
2104.....	301. 89	3017.....	98. 33	6057.....	6. 30
2105.....	285. 44	3033.....	53. 34	6058.....	10. 58
2106.....	285. 44	3057.....	73. 34	6059.....	10. 58
2107.....	285. 44	3094.....	1. 39	6060.....	10. 58
2108.....	301. 89	3194.....	226. 03	6061.....	76. 86
2109.....	301. 89	3296.....	200. 00	6062.....	42. 96
2110.....	142. 73	3353.....	68. 62	6063.....	1. 55
2116.....	263. 04	3354.....	68. 62	6064.....	1. 17
2117.....	290. 82	3355.....	68. 62	6075.....	16. 41
2121.....	150. 79	3378.....	7, 068. 00	6085.....	1. 35
2122.....	150. 79	3379.....	4, 103. 30	6086.....	1. 35
2181.....	578. 06	3380.....	716. 80	19984.....	266. 64
2207.....	24. 14	3381.....	11, 842. 60		
2209.....	129. 58	3382.....	7, 577. 60	GEORGETOWN.	
2210.....	129. 58	3383.....	2, 894. 50		
2216.....	253. 36	3384.....	444. 80	5.....	76. 20
2218.....	253. 37	3385.....	7, 362. 00	43.....	137. 50
2221.....	464. 90	3386.....	1, 052. 80		
2225.....	13. 95	3407.....	601. 54	COUNTY.	
2227.....	92. 99	3412.....	987. 94		
2250.....	239. 74	3413.....	1, 078. 63	21.....	9. 08
2344.....	147. 77	3428.....	86. 70	36.....	12. 13
2363.....	84. 95	3437.....	20. 60	50.....	12. 13
2364.....	84. 95	3438.....	43. 68	55.....	49. 48
2413.....	12. 40	3439.....	9. 69	75.....	31. 52
2414.....	12. 40	3441.....	55. 48	96.....	22. 89
2416.....	12. 40	3442.....	69. 35		
2588.....	134. 66	3443.....	69. 35		
2589.....	119. 65	3446.....	24. 34		
					80, 828. 43

APPENDIX II.—*Statement of amounts of outstanding lien certificates subject to redemption in drawback certificates upon presentation and demand.*

Number of lien.	Amount.	Number of lien.	Amount.	Number of lien.	Amount.
1650	\$37. 00	1933	\$15. 97	3390	\$54. 36
1681	38. 74	3387	32. 00	3411	36. 17
1682	54. 13	3388	24. 70		
1912	5. 09	3389	3. 81		
					<u>301. 97</u>

APPENDIX III.—*Statement of drawback certificates received for account of sinking fund by this division, in accordance with orders of Commissioners of the District of Columbia, dated April 17, 1880, and July 1, 1880, and transmitted to the auditor District of Columbia, under order of Commissioners District of Columbia, dated March 8, 1881, from June 30, 1886, to June 30, 1887.*

	Amount.		Amount.		Amount.
1886.		1887.		1887.	
August 3	\$46.29	January 17	\$2.73	May 4	\$168.63
September 22	4.00	February 12	95.93	May 9	141.81
October 1	2.70	March 8	126.43	May 12	7.73
October 2	.43	March 17	126.43	May 26	96.91
November 13	6.13	April 2	3.13		
November 17	7.07	April 12	26.04		
November 24	24.03	April 28	20.73		907.18

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 193

APPENDIX IV.—Statement of payments made on account of lien certificates not held by the commissioner of the sinking fund.

Number of lien.	Date of payment.	Amount inclusive of interest.	To whom paid.
	1886.		
2426.....	July 12	\$19. 06	Susan Hopp, by surrender.
533.....	July 14	116. 31	George E. Kirk, partial cancellation.
534.....	July 14	61. 59	Do.
535.....	July 14	47. 22	Do.
22 (county).....	July 16	18. 15	Lewis Beyer, by surrender.
55 (county).....	July 19	12. 37	William Yorke AtLee, partial cancellation.
1934.....	July 29	95. 68	C. C. Duncanson, by surrender.
1953.....	Aug. 7	150. 61	N. H. Shea, by surrender.
653.....	Aug. 9	92. 00	F. P. Hall, by surrender.
1431.....	Sept. 8	306. 70	William Yorke AtLee, by warrant on United States Treasury.
69 (county).....	Sept. 13	25. 46	William Yorke AtLee, by partial cancellation.
2179.....	Oct. 12	31. 92	Do.
3446.....	Oct. 14	28. 05	Mary Ready, by warrant on United States Treasury.
1910.....	Oct. 15	95. 83	T. A. Lambert, by surrender.
2195.....	Oct. 19	25. 67	William Yorke AtLee, by surrender.
1589.....	Nov. 1	79. 53	Grace McCullom, by surrender.
2179.....	Nov. 30	63. 83	William Yorke AtLee, by surrender.
2415.....	Dec. 8	9. 45	Do.
	1887.		
2119.....	Jan. 12	290. 81	S. J. Block, by surrender.
2120.....	Jan. 12	312. 19	Do.
44 (county).....	Jan. 25	23. 71	Fitch, Fox & Brown by warrant on United States Treasury.
44 (county).....	Jan. 25	24. 16	Do.
44 (county).....	Jan. 25	51. 64	Do.
44 (county).....	Jan. 25	28. 29	Fitch, Fox & Brown, by warrant on United States Treasury and drawback certificates.
485.....	Jan. 26	20. 13	William Yorke AtLee, by partial cancellation.
484.....	Jan. 26	241. 38	Do.
3155.....	Feb. 12	137. 09	Moses Kelly, by surrender.
3147.....	Feb. 12	134. 50	Do.
3154.....	Feb. 12	137. 09	Do.
3148.....	Feb. 12	126. 43	Do.
2291.....	Feb. 23	238. 70	William Yorke AtLee, by surrender.
27 (county).....	Feb. 26	14. 46	William Yorke AtLee, by warrant on United States Treasury.
1008.....	Mar. 12	159. 19	E. Champlin, by surrender.
2191.....	Mar. 14	83. 68	Samuel Norment, by surrender.
2015.....	Mar. 16	153. 53	Samuel Norment, by partial cancellation.
6068.....	Mar. 25	19. 68	Maggie Lillie, by surrender.
545.....	Mar. 29	96. 64	J. H. Whitmore, by surrender.
25 (county).....	Mar. 30	12. 13	Eugene Sweeney, by surrender.
69 (county).....	Mar. 30	1, 277. 50	R. E. L. White, by surrender.
2150.....	Mar. 30	314. 15	G. Y. AtLee, by surrender.
2151.....	Mar. 30	299. 90	Do.
2152.....	Mar. 30	316. 40	Do.
2153.....	Mar. 30	317. 17	Do.
2154.....	Mar. 30	302. 41	Do.
3246.....	Mar. 31	332. 07	Washington City Orphan Asylum, by surrender.
3247.....	Mar. 31	332. 07	Do.
3248.....	Mar. 31	332. 07	Do.
3249.....	Mar. 31	332. 07	Do.
2215.....	Apr. 2	94. 14	John Patch, by surrender.
2118.....	Apr. 6	290. 81	S. J. Block, by surrender.
1134.....	Apr. 6	84. 45	W. W. Kirby, by surrender.
6045.....	Apr. 8	395. 69	J. T. Lenman, by warrant on United States Treasury.
1353.....	Apr. 9	68. 98	J. G. Craighead, by surrender.
3318.....	Apr. 11	93. 83	S. J. Block, by surrender.
28 (county).....	Apr. 16	6. 06	Wm. Yorke AtLee, by surrender.
3410.....	Apr. 18	262. 94	C. Ruppert, by surrender.
2430.....	Apr. 29	38. 10	H. C. Stewart, by surrender.
2504.....	Apr. 29	246. 80	Do.
67 (county).....	May 4	418. 12	John Saul, by surrender.
2402.....	May 5	100. 07	Charles Ford, by surrender.
2403.....	May 5	17. 16	Do.
2404.....	May 5	17. 16	Do.
2405.....	May 5	17. 16	Do.
2406.....	May 5	17. 16	Do.
2407.....	May 5	17. 16	Do.
2408.....	May 5	17. 16	Do.
2409.....	May 5	17. 16	Do.
2410.....	May 5	17. 16	Do.
2411.....	May 5	17. 16	Do.

194 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

APPENDIX IV.—*Statement of payments made on account of lien certificates not held by the commissioner of the sinking fund—Continued.*

Number of lien.	Date of payment.	Amount inclusive of interest.	To whom paid.
	18 86.		
2412.....	May 5	17. 16	Charles Ford, by surrender.
2476.....	May 5	647. 85	Do.
2477.....	May 5	111. 05	Do.
2478.....	May 5	111. 05	Do.
2479.....	May 5	111. 05	Do.
2480.....	May 5	111. 05	Do.
2481.....	May 5	111. 05	Do.
2482.....	May 5	111. 05	Do.
2483.....	May 5	111. 05	Do.
2484.....	May 5	111. 05	Do.
2485.....	May 5	111. 05	Do.
2486.....	May 5	111. 05	Do.
2027.....	May 10	116. 59	W. O. Berryman, by surrender.
1208.....	June 2	161. 73	Wm. Yorke AtLee, by surrender.
171.....	June 4	79. 30	W. T. Steiger, by surrender.
571.....	June 7	60. 34	Wm. Yorke AtLee, partial cancellation.
108.....	June 8	101. 13	Wm. Yorke AtLee, by surrender.
3446.....	June 8	28. 80	Mary Ready, third installment by warrant on United States Treasury.
149.....	June 11	101. 73	Wm. Yorke AtLee, by warrant on United States Treasury.
2217.....	June 22	253. 37	Steiger and Leiberman, by warrant on United States Treasury.
Total		12, 673. 62	

G 2.

GENTLEMEN: I have the honor to suggest the incorporation in your annual report, if not too late, the desirability of legislation by Congress conferring upon the Commissioners of the District of Columbia authority to re-assess in all cases where the courts have held or may hereafter hold that the special assessments as originally made were invalid by reason of failure to comply with any of the requirements of law as to notice, etc., provided, of course, that such authority is not already vested in the board. In all these cases there is no allegation that the work has not been done and paid for by the District, nor that the lot has not received the full benefit of such improvement, but they appear to be no more nor less than an effort to evade the payment of a debt equitably due and upon some technical point of omission of some of the many requirements of the various laws relative thereto to throw upon the community an additional burden due by the single individual.

Very respectfully,

WM. OSCAR ROOME,
Chief of Special Assessment Division.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

H.

REPORT OF THE COLLECTOR OF TAXES.

OFFICE OF COLLECTOR OF TAXES,
DISTRICT OF COLUMBIA,
Washington, September 1, 1887.

GENTLEMEN: I have the honor to submit the following report, showing the amount of tax balances with which this office was debited at the beginning of the fiscal year commencing July 1, 1886; also the amount of tax levies, real and personal, for the year ending June 30, 1887, received for collection November 1, 1886; together with the amounts received for collection on account of the water fund, licenses, dog tax, fees, penalties, etc., and the amount collected on account of the same, during the fiscal year ending June 30, 1887.

A report is also submitted showing the amounts collected on account of special assessments for improvements done under the late Board of Public Works.

	DR.	CR.
	To amount charged.	By amount collected.
To balance of taxes due July 1, 1886, as follows:		
Realty tax—		
For the years 1845 to 1870.....		\$1, 225. 83
For the year ending June 30—		
1872.....		255. 76
1873.....	\$5, 869. 96	915. 42
1874.....	41, 042. 53	3, 134. 47
1875.....	70, 052. 06	5, 839. 53
1876.....	23, 192. 08	4, 261. 42
1877.....	45, 783. 10	5, 835. 43
1878.....	36, 153. 87	6, 370. 81
1879.....	46, 961. 01	7, 044. 16
1880.....	61, 082. 97	9, 469. 92
1881.....	59, 420. 57	9, 733. 68
1882.....	62, 045. 86	10, 966. 27
1883.....	69, 160. 28	12, 872. 56
1884.....	73, 161. 34	16, 706. 27
1885.....	99, 002. 35	27, 531. 30
1886.....	180, 717. 58	91, 719. 40
1887.....	1, 605, 882. 86	1, 407, 574. 21
	\$2, 479, 534. 42	\$1, 621, 455. 94
To amount collected in excess of what was charged to collector on account of general tax arrears 1845 to 1870.....	1, 225. 33	
To amount collected in excess of what was charged to collector on account of assessment of general tax 1872.....	255. 76	
	1, 481. 09	
Personal tax:		
For the year ending June 30—		
1877.....	30, 066. 84	
1878.....	71, 827. 52	
1879.....	34, 400. 35	
1880.....	16, 041. 92	
1881.....	23, 302. 19	
1882.....	7, 618. 57	
1883.....		
1884.....	7, 215. 20	
1885.....	27, 931. 00	03. 00
1886.....	37, 936. 78	6, 955. 91
1887.....	179, 013. 68	145, 796. 97
	435, 354. 05	152, 815. 88

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	Dr.	Cr.
	To amount charged.	By amount collected.
To amount of penalty on realty tax, as follows:		
For the years 1845 to 1870		\$924. 18
For the year ending June 30—		
1872.....		252. 35
1873.....	\$1, 002. 88	1, 002. 88
1874.....	2, 636. 62	2, 636. 62
1875.....	4, 100. 32	4, 100. 32
1876.....	3, 100. 02	3, 100. 02
1877.....	3, 959. 16	3, 959. 16
1878.....	3, 876. 44	3, 876. 44
1879.....	4, 240. 97	4, 240. 97
1880.....	5, 226. 29	5, 226. 29
1881.....	5, 261. 46	5, 261. 46
1882.....	4, 697. 78	4, 697. 78
1883.....	4, 512. 35	4, 512. 35
1884.....	4, 771. 75	4, 771. 75
1885.....	5, 590. 16	5, 590. 16
1886.....	9, 458. 33	9, 458. 33
1887.....	8, 046. 63	8, 046. 63
	70, 481. 16	71, 657. 69
To amount of penalty on taxes collected in excess of what was charged to collector on account of general tax arrears 1845 to 1870.	924. 18	
To amount of penalty on taxes collected in excess of what was charged to collector on account of assessment of general tax 1872.	252. 35	
	1, 176. 53	
To amount of penalty on personal tax as follows:		
For the year ending June 30—		
1885.....	9. 85	9. 85
1886.....	778. 39	778. 39
1887.....	683. 62	683. 62
	1, 471. 86	1, 471. 86
To amount of miscellaneous items received for collection, as follows:		
Washington redemption fund—		
Principal.....	\$276. 05	
Interest.....	63. 85	
	339. 90	339. 90
Special taxes—		
Principal.....	\$6, 246. 24	
Interest.....	9, 586. 65	
	15, 832. 89	15, 832. 89
Licenses.....	164, 982. 13	164, 982. 13
Dog tax.....	11, 923. 53	11, 923. 53
Permit fees.....	4, 033. 00	4, 033. 00
Fees for certificates.....	3, 402. 50	3, 402. 50
Material furnished plumbers.....	121. 25	121. 25
Advertising tax arrears (1875 to 1886).....	3, 414. 39	3, 414. 39
Market rents:		
Eastern.....	\$3, 603. 90	
Western.....	6, 478. 70	
Georgetown.....	1, 218. 74	
Washington.....	7, 500. 00	
	18, 801. 34	18, 801. 34
Police court fines:		
District of Columbia.....	\$21, 087. 64	
United States.....	11, 112. 15	
	32, 199. 79	32, 199. 79
Criminal court fines.....	953. 04	953. 04
Building permits.....	9, 783. 00	9, 783. 00
Redemption of assessment certificates.....	960. 17	960. 17
Sale of hay-scales.....	1, 840. 54	1, 840. 54
Inspecting and proving gas-meters (D. C. ½).....	342. 25	342. 25
Washington Asylum, received for board.....	24. 00	24. 00
No. 6 Engine-house, use of wall.....	241. 60	241. 60
Sales of old material (desks, etc.).....	304. 20	304. 20
Auctioneers' returns from special sales.....	271. 97	271. 97
Bills receivable (western market).....	252. 42	252. 42
Sale of school-house.....	132. 93	132. 92
Pound fees.....	367. 00	367. 00
Rent of District of Columbia property.....	4, 746. 85	4, 746. 85
Forfeiture of recognizance.....	1, 928. 78	1, 928. 78
Conscience fund.....	2. 76	2. 76
Use of steam engine.....	40. 00	40. 00
Sale of confiscated butter.....	1. 82	1. 82
Advertising special assessments.....	386. 00	386. 00
Paving Pennsylvania avenue:		
Principal.....	\$824. 60	
Interest.....	825. 06	
	1, 649. 66	1, 649. 66
	279, 279. 71	279, 279. 71

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 197

	DR.	CR.
	To amount charged.	By amount collected.
Water-main tax advertised:		
Principal	\$7,630.50	
Interest	3,183.62	
	\$10,814.12	\$10,814.12
Water rents, taps, permits, etc	185,767.06	185,767.06
	\$196,581.18	\$196,581.18
Total	3,465,360.00	2,323,262.26
To amount of increase in assessments as per statements of the assessor and auditor, District of Columbia:		
Realty tax	9,086.02	
Personal tax	336.63	
	9,422.65	
By amount of deductions on account of taxes remitted by acts of Congress approved January 26, February 23, and March 3, 1887, respectively, erroneously charged taxes, etc.:		
Realty tax		52,923.56
Personal tax		1,307.41
		54,230.97
Balance of uncollected taxes:		
Realty tax		815,722.03
Personal tax		281,567.39
		1,097,289.42
Total	3,474,782.65	3,474,782.65

RECAPITULATION.

To amount collected on account of:	
Realty tax	\$1,621,455.94
Personal tax	152,815.88
Miscellaneous items	279,279.71
Penalties	73,129.55
Water fund	196,581.18
	2,323,262.26
To amount of remitted taxes, etc	54,230.97
To balance of uncollected taxes	1,097,289.42
Total	3,474,782.65

PER CONTRA.

By cash deposited in United States Treasury	\$2,321,745.04
By drawback certificates	1,308.29
By tax-lien certificates	208.93
	2,323,262.26
Amount of remitted taxes, etc	54,230.97
Balance of uncollected taxes	1,097,289.42
Total	3,474,782.65

The following items in the above exhibit were collected through this office for the use of third parties holding the liens representing the taxes:

Special taxes, principal and interest	\$15,832.89
Washington redemption fund, principal and interest	339.90
Paving Pennsylvania avenue, principal and interest	1,649.66
General taxes for the years ending June 30, 1872 and 1873, represented by tax-lien certificates, principal and interest	1,191.56
Total	19,014.01

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SPECIAL ASSESSMENTS.

Certificate account.

Months.	Bonds.		Coupons.		Draw-backs.	Cash.	Total.
	Principal.	Interest.	Principal.	Interest.			
1886.							
July.....	\$450.00	\$290.37	\$96.00	\$58.75	.....	\$481.02	\$1,376.14
August.....	7,050.00	4,766.66	514.00	319.24	\$46.29	1,081.96	13,778.15
September.....	3,550.00	2,554.57	98.00	62.71	4.00	936.40	7,205.68
October.....	3,400.00	2,372.77	192.00	125.57	3.13	804.50	6,897.97
November.....	2,550.00	1,799.74	142.00	93.25	31.10	859.85	5,475.94
December.....	2,200.00	1,573.92	110.00	73.14	.....	669.12	4,626.18
1887.							
January.....	1,600.00	1,141.50	96.00	65.02	2.73	565.63	3,470.88
February.....	3,250.00	2,314.31	216.00	147.12	95.93	697.92	6,721.28
March.....	11,800.00	8,668.14	532.00	365.72	252.86	4,295.16	25,913.88
April.....	6,200.00	4,613.72	218.00	145.34	49.90	2,852.50	14,079.46
May.....	4,100.00	3,204.51	62.00	39.36	415.08	2,390.77	10,211.72
June	6,300.00	4,952.34	20.00	12.52	.....	2,266.00	13,551.85
Total.....	52,450.00	38,252.55	2,296.00	1,507.74	901.02	17,901.82	113,309.13

First National Bank account.

Months.	Drawbacks.	Cash.	Total.
1886.			
August.....	\$26.04	\$2.25	\$28.29
September.....	.....	306.70	306.70
October.....	.....	51.86	51.86
1887.			
February.....	.....	14.46	14.46
April.....	.....	395.69	395.69
May.....	.....	28.80	28.80
June.....	.....	160.41	160.41
Total.....	26.04	960.17	986.21

General account.

Months.	Drawbacks.	Cash.	Total.
1886.			
July.....		\$29.47	\$29.47
September.....		359.00	359.00
October.....		1.49	1.49
November.....		52.58	58.74
December.....	\$6.16	.13	.13
1887.			
April.....		17.77	17.77
May.....		116.53	116.53
June.....		51.66	51.66
Total.....	6.16	628.63	634.79
Condemnation of land for alleys.....			\$290.18
Cost of advertising.....			378.85

RECAPITULATION.

Certificate account.....	\$113,309.13
First National Bank.....	986.21
General account.....	634.79
Condemnations.....	290.13
Cost of advertising.....	378.85
Total.....	115,599.11

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 199

In addition to the above exhibited accounts, deposits of varying amounts are received in this office from contractors guarantying various proposed obligations to the District. These receipts are held in charge subject to the order of the Commissioners, District of Columbia, and returned to parties making the deposits on their order, the obligation being fulfilled.

There has also been received the sum of \$1,005 to date, on account of engineers and plumbers' license fund, held subject to the future determination of the Commissioners of the District of Columbia, also varying amounts voluntarily placed to the credit of the District in the sum of \$40,016.10 for the special improvement of property binding on the same, such as footwalks, street improvements, constructing sewers, and paving alleys. This sum is deposited with the collector of taxes for the reimbursement of the cost to the District for doing the work and furnishing the material.

The following is a general exhibit of the receipts and disbursements on account of the same :

On account of—	Receipts.	Disbursements.
Permit sewer work.....	\$15,947.99	\$9,364.02
Permit surface work.....	21,179.09	14,705.22
Permit water main.....	307.30	262.04
Plumbers' cuts.....	2,581.72	1,491.26
Engineers' fund.....	882.00	27.49
Plumbers' fund.....	123.00	12.60
Total.....	41,021.10	25,862.60
Balance cash on hand.....	15,158.41	

The total amount received as above has been deposited in the National Bank of Washington, against which checks in payment of said improvements have been drawn and for the rebates of difference to the depositors, on orders of the Engineer Commissioner, District of Columbia. Accompanying this statement is added also amounts received and rebated to plumbers for costs and damages attending the cutting of the concreted and other streets.

Detailed statements of this account are at your order whenever it may be given, as well as statements of the condition of the fund at the banking-house where, for convenience and security, said amounts received are deposited.

The arrears of taxes subject to the benefit of payment, with 6 per cent. interest in lieu of higher rate of interest and penalty, are being paid in, and the interest manifested by the demand for bills for delinquent taxes indicate that a large percentage of the amount (\$600,000) to which this privilege of payment is accorded will be collected before the 30th of November, when the opportunity expires. So that, with elimination from the debit statement of accounts clearly exempt from taxation levied and charged on church, asylum, school, United States, and District of Columbia properties, the amount due the District for taxes will be reduced to a very small sum.

The amounts daily received on account of taxes, etc., are duly transmitted to the United States Treasury, and the duplicate receipts for the same received by mail and filed with the auditor of the District of Columbia. In reference to the above fact I wish to again call the attention of the Commissioners to the necessity of better and securer means of transmitting our receipts to the Treasury, the offices being quite distant, and the sending of the same by hand of one person—

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sometimes two—through the streets is at greater risk than is justifiable, and the limited force employed in this office will not allow a regular clerk at all times to accompany the officer detailed to make the deposits. The use of a wagon—even a patrol wagon—for a limited period of an hour or two each day should certainly be provided for this purpose.

Your attention is respectfully called to a revival of House of Representatives bill No. 9064, entitled "A bill prescribing the times for sales and for notice of sales of property in the District of Columbia for overdue taxes."

Respectfully submitted.

JOHN F. COOK,
Collector of Taxes, District of Columbia.

The COMMISSIONERS, DISTRICT OF COLUMBIA.

Arrears of tax collected under act of Congress approved March 3, 1887, which allowed all general taxes due the District of Columbia, in arrears July 1, 1886, to be paid on or before November 30, 1887, with 6 per cent. per annum interest, in lieu of rate and penalties otherwise provided for.

Month.	1845 to 1870.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
March (4 to 31) .	\$202. 72	\$51. 49	\$79. 19	\$463. 01	\$849. 94	\$576. 46	\$1, 403. 58	\$1, 887. 42	\$2, 221. 13
April	183. 84	91. 34	348. 41	438. 70	675. 25	1, 181. 34	782. 37	850. 38	601. 71
May	92. 62	18. 75	30. 18	331. 56	506. 83	359. 81	704. 26	511. 81	412. 28
June	81. 25	2. 74	146. 21	616. 70	590. 03	366. 53	662. 55	664. 75	827. 84
July	152. 60	51. 28	478. 27	581. 64	1, 160. 39	781. 02	807. 89	858. 36	722. 55
August	330. 66	76. 01	324. 69	468. 92	963. 76	505. 76	643. 85	963. 69	665. 37
September	282. 01	30. 79	52. 46	140. 43	350. 68	595. 66	462. 12	855. 47	1, 323. 80
October	1, 505. 67	149. 84	286. 11	775. 59	1, 666. 90	844. 30	1, 406. 14	1, 481. 72	1, 758. 11
November	1, 430. 16	134. 35	1, 749. 90	9, 177. 20	15, 203. 29	6, 336. 60	8, 230. 01	8, 730. 54	8, 516. 96
Total	4, 261. 53	606. 59	3, 495. 42	12, 993. 75	21, 967. 07	11, 547. 48	15, 102. 77	16, 804. 14	17, 079. 75
Balance due December 1, 1887.			1, 233. 45	11, 777. 18	23, 874. 20	9, 551. 08	28, 085. 92	16, 511. 26	24, 242. 34

Month.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	Total.	Penalty for all years.
March (4 to 31) .	\$2, 320. 51	\$1, 753. 40	\$1, 736. 00	\$2, 183. 71	\$2, 289. 54	\$2, 697. 87	\$5, 471. 75	\$26, 187. 72	\$8, 359. 57
April	837. 24	796. 61	987. 11	1, 064. 11	1, 363. 15	2, 021. 29	3, 293. 37	15, 516. 22	5, 391. 32
May	1, 035. 43	1, 118. 12	1, 554. 79	1, 608. 00	1, 623. 47	2, 298. 59	4, 083. 40	16, 289. 90	4, 567. 13
June	1, 105. 01	1, 322. 24	2, 272. 50	2, 481. 38	2, 432. 00	3, 515. 41	4, 812. 21	21, 819. 35	6, 139. 93
July	841. 56	919. 9	1, 050. 23	1, 044. 24	1, 163. 78	2, 113. 31	3, 116. 59	15, 843. 64	6, 105. 01
August	1, 343. 33	1, 224. 65	1, 774. 62	2, 019. 75	1, 899. 70	2, 814. 60	3, 696. 91	19, 716. 27	6, 662. 25
September	1, 510. 50	1, 597. 2	1, 342. 70	1, 789. 11	1, 507. 95	2, 257. 23	3, 475. 70	27, 573. 81	5, 683. 09
October	1, 840. 86	1, 875. 28	1, 781. 22	1, 617. 29	1, 968. 33	2, 764. 88	4, 545. 70	26, 267. 94	10, 633. 28
November	9, 665. 96	11, 111. 36	12, 592. 71	14, 861. 39	14, 302. 76	16, 945. 20	18, 038. 39	157, 056. 72	65, 717. 30
Total	20, 500. 40	21, 718. 73	25, 091. 88	28, 668. 98	28, 550. 68	37, 428. 38	50, 534. 02	316, 351. 57	119, 258. 88
Balance due December 1, 1887	34, 704. 39	33, 033. 93	30, 857. 62	32, 513. 30	37, 517. 29	44, 267. 06	55, 825. 12	384, 024. 14	
Balance due for 1887								102, 071. 46	
Total								486, 095. 60	

NOTE.—Quite a percentage of the above balance should be eliminated by careful audit, as it will be found based on properties belonging to cemeteries, asylums, churches, schools, the District of Columbia, and, in some instances, the United States, and other corporations exempt from taxation. This office will, as time permits, collate and list, subject to publication, all unpaid arrears. It presents this exhibit of collections in the above detail in order to suggest either a further opportunity being afforded by similar enactment for the collection of balances due, or that an enactment be sought vesting power in the Commissioners to adjust and settle such arrear accounts on the basis of 6 per cent. per annum interest in lieu of all penalties from the times the said arrears should have been paid, and provided the same are paid prior to July 1, 1888.

I.

REPORT OF THE AUDITOR OF THE DISTRICT OF COLUMBIA.

OFFICE OF THE AUDITOR, DISTRICT OF COLUMBIA,
Washington, November 9, 1887.

GENTLEMEN: I have the honor to submit the following report, showing the receipts and expenditures of the District government for the fiscal year ending June 30, 1887.

The entire revenues of the District during the fiscal year, including appropriations by Congress, were \$5,154,293.50, as follows, viz:

Balance on hand July 1, 1886.....	\$746, 050. 35
Received during the year.....	4, 400, 935. 98
Repayment to appropriations	7, 307. 17
Total receipts.....	5, 154, 293. 50

The total expenditures during the year (per Exhibit B, herewith) were \$4,002,398.54, leaving a balance of \$1,151,894.96, from which deduct one-half of unexpended balances of appropriation for the fiscal years 1879 to 1884, both inclusive, applied to the payment of the sewer indebtedness of the District created by act of Congress approved June 30, 1884, as per statement of First Comptroller, United States Treasury, dated June 14, 1887, \$132,029.04, leaving a balance on hand July 1, 1887, of \$1,019,865.92, which is divided under the following heads, viz:

Subject to general expenses.....	\$977, 865. 77
Water fund.....	14, 351. 07
Special-tax fund	4, 447. 03
Washington redemption fund.....	857. 86
Redemption of tax-lien certificates.....	3, 117. 11
Redemption of assessment certificates.....	333. 43
Guaranty fund	8, 131. 50
Policemen's relief fund	6, 699. 23
Firemen's relief fund	2, 205. 14
Redemption of Pennsylvania avenue certificates, act July 19, 1876	176. 03
Redemption of Pennsylvania avenue certificates, act July 8, 1870	743. 26
Filling grounds south of Capitol, under various acts.....	191. 07
Sale of property in Washington and Georgetown, act March 3, 1881	449. 12
General expenses of the District, act March 3, 1875	292. 31
Fire department, act June 22, 1874.....	. 49
Surplus fund.....	5. 50

Balance on hand July 1, 1887.....	1, 019, 865. 92
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The foregoing statement of expenditures, classified under the fiscal years to which they respectively pertain, will be found fully set forth in Exhibit C, herewith.

Levy of real and personal tax for the fiscal year as shown by the corrected tax ledgers on file in this office	\$1, 793, 112. 08
To which add duplicate payments subject to refund	3, 376. 15
Penalty collected.....	8, 730. 25
Total.....	1, 805, 218. 48

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The amount collected up to and including June 30, 1887, was \$1,553,371.18, leaving a balance delinquent July 1, 1887, of \$239,740.90.

Of the delinquent taxes for the fiscal year due July 1, 1887, there has since been collected to September 30, inclusive, the sum of \$67,600.29.

The number of checks drawn upon the Treasurer of the United States during the year was 27,953, aggregating the sum of \$2,546,258.05. The increase in number of checks drawn over that in the previous year was 1,456.

The number of audits for the same period was 5,436; an increase over the previous year of 579. The aggregate sum for which checks were drawn show an increase over the previous year of \$130,178.10.

In considering the number of audits, it should be remembered that each pay-roll counts as one audit only, although each entry thereon requires a separate examination and calculation. Some of the rolls are large: the executive, police, fire, and asylum rolls numbering over 600 names, while the school-roll alone numbers over 700, and the laborers' rolls a still greater number.

As checks are drawn for each person, and on monthly payments, the amount of labor performed in this one branch of routine office duty alone will be manifest.

The act making an appropriation for the completion of the sewerage system of the District of Columbia, approved June 30, 1884 (Public No. 74), which appropriated \$500,000 for said purpose, and which required that 50 per centum of the amount should be charged to the District of Columbia, has been carried out, and the amount charged to the District under the provisions of the act has been liquidated, and the account finally adjusted and closed at the Treasury Department.

In the adjustment, credit was allowed for the one-half of unexpended balances of appropriation previously made for the support of the government of the District of Columbia up to and including June 30, 1884, as shown by the Treasury account, and so much of the one-half of amounts allowed by the Treasury to date of drawback certificates heretofore received and deposited in the Treasury as was required to balance and close the account.

Amount credited to the District from the one-half of unexpended balances of appropriation.....	\$132,029.04
From the one-half of drawback certificates.....	117,970.96
Total.....	250,000.00

I beg to renew the recommendation contained in my previous reports, that arrears tax-books be prepared at the close of each fiscal year, and that posting in the annual tax ledgers of amounts received for delinquent taxes collected after June 30 of each year be discontinued, and credit for such payments be entered in the delinquent books; this will facilitate the examination of the accounts.

The order of the Commissioners of March 17, 1887, which requires a requisition to issue before any indebtedness is incurred, works satisfactorily, being uniformly observed, and it is suggested as an additional security against exceeding appropriations that heads of departments be directed to open accounts of requisitions made by them, charging the appropriations for their respective offices with the cost or estimated cost thereof. By comparing this account from time to time with the records in this office of accounts audited, any differences, should they exist, can be readily reconciled, and all danger of incurring liabilities in excess of the appropriations avoided.

Deficiencies should not occur unless absolutely unavoidable, and even in cases of emergency their propriety or legality may well be questioned; they certainly should not occur for want of care in keeping the record.

I have to invite attention to the exposed condition of the general files room on the first floor, in which the duplicate vouchers for disbursements which have been accumulating for years, together with other valuable papers, are filed.

In order to prevent the disarranging of the files (from which the office has already suffered), guard against fire, and deter unauthorized persons from having access to the papers, it is recommended that provision be made for the appointment of a competent and careful files-keeper, to take charge of the room, and be in constant daily attendance therein during office hours, keeping the same locked when not on duty. If this is not practicable, then it is recommended that all the duplicate audits and other valuable papers in the custody of the auditor be transferred to this office, and suitable shelving erected for their reception.

The repeated calls upon the employés of the office for service in the other departments have been a source of much embarrassment, and have retarded the current work of the office to a considerable extent.

There is much to be accomplished of an important character, which has on this account been temporarily suspended.

The estimates for the clerical force of the office are close, and based upon its actual needs, and with the constantly increasing demands upon it none of its employés (many of whom are now overworked) can be spared without serious inconvenience. With the full complement of clerks at its disposal, it is certain that more satisfactory results will be obtained during the present year.

I beg to commend the employés of the office for the labor performed by them during the year, and for the efficient manner in which they have discharged the duty assigned them.

I. S. TICHENOR,
Auditor, District of Columbia.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

I 1.—Statement of cash receipts of the District of Columbia from July 1, 1886, to June 30, 1887.

On what account received.	Detail.	Total.	Aggregate.
GENERAL TAXES AND LICENSES.			
General taxes, including penalties.....	\$1, 844, 692. 59	\$2, 009, 674. 72	
Licenses	164, 982. 13		
MARKETS.			
Eastern market, rents.....	3, 603. 90	\$19, 053. 76	
Western market, rents	6, 478. 70		
Georgetown market, rents	1, 218. 74		
Washington Market Company, franchise rental.....	7, 500. 00		
Western market, note account	252. 42		
RENT OF DISTRICT PROPERTY.			
Rent of hay-scales.....	1, 840. 54	6, 587. 39	
Rent of wharves, street termini, and buildings	4, 200. 00		
Rent of fish wharves and stalls	546. 85		
FINES.			
Fines, police court, United States cases	11, 112. 15	33, 152. 83	
Fines, police court, District of Columbia cases	21, 087. 64		
Fines, criminal court.....	953 04		

204 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

I 1.—Statement of cash receipts of the District of Columbia, etc.—Continued.

On what account received.	Detail.	Total.	Aggregate.
MISCELLANEOUS.			
Fees for tax certificates	\$3,402.50		
Permit fees for sewers and gas	4,033.00		
Building permits	9,783.00		
Dog tax	11,923.53		
Pound fees	367.00		
Material furnished	121.25		
Sale of old school desks	143.10		
Sale of old horses, bought before July 1, 1878	161.10		
Labor and sale of products, Reform School	1,887.70		
Labor and sale of products, Industrial Home School	49.31		
Board of Patrick Haney, Washington Asylum	24.00		
Fees for inspection of gas and meters	342.25		
Surplus from sale of contractors' guaranty bonds	1,638.17		
Advertising	3,800.39		
Auctioneers' returns	271.97		
Party walls	241.60		
Forfeited recognizance	1,928.78		
Use of steam fire-engines	40.00		
Confiscated butter	1.82		
Conscience fund	2.76		
Sale of school building, Twenty-second and I street north-west	132.93		
		\$40,296.16	
Total taxes and revenue (cash) for 1887			\$2,108,764.86
SPECIAL AND TRUST FUNDS.			
Water taxes and rents	196,581.18		
Washington redemption fund	339.90		
Special-tax fund	15,832.89		
Redemption of assessment certificates	960.17		
Redemption of tax-lien certificates	1,191.56		
Guaranty fund, act June 11, 1878	34,811.74		
Policemens' relief fund, act February 25, 1885	6,303.03		
Firemen's relief fund, act February 25, 1885	1,202.38		
Redemption Pennsylvania avenue paving scrip, July 19, 1876	1,649.66		
		258,872.51	
Total special and trust funds			258,872.51
UNITED STATES APPROPRIATIONS.			
Act June 30, 1884, completion sewerage system	5,000.00		
Act July 9, 1886, general expenses, District of Columbia, 1887	1,766,131.49		
Act August 4, 1886, Reform School, District of Columbia (sundry civil)	9,750.00		
Act August 4, 1886, deficiencies	37,417.12		
Act March 3, 1887, general expenses, District of Columbia, 1888	215,000.00		
		2,033,298.61	
Total United States appropriations			2,033,298.61
Grand total of receipts and appropriations			4,400,935.98

I 2.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887, showing the general appropriation and fiscal years to which the expenditures are applicable.

	Fiscal year ending June 30, 1882.	Fiscal year ending June 30, 1883.	Fiscal year ending June 30, 1884.	Fiscal year ending June 30, 1885.
Improvements and repairs	\$44.36			\$212.58
Salaries and contingent expenses, offices			\$44.10	661.41
Streets				99.68
Courts		\$15.00		
Pay of referees, Court of Claims				350.00
Public schools		4.50		2,404.99
Miscellaneous expenses				996.21
Completion of sewerage system				53,408.73
Water department				8.00
Total	44.36	19.50	44.10	58,141.60

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 205

I 2.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887, etc.—Continued.

	Fiscal year ending June 30, 1886.	Fiscal year ending June 30, 1887.	Fiscal year ending June 30, 1888.	Special funds.	Totals.
Improvements and repairs	\$10,423.09	\$417,706.40	\$23,712.55	.....	\$452,098.98
Bridges	1,724.98	10,784.53	.....	.....	12,509.51
Washington Asylum	2,510.19	49,105.58	.....	.....	51,615.77
Buildings, Washington Asylum	284.75	3,495.00	.....	.....	3,779.75
Georgetown Almshouse	147.00	1,641.50	.....	.....	1,788.50
Transportation of paupers and prisoners	278.00	2,868.62	.....	.....	3,146.62
Government Hospital for the Insane	13,365.50	75,132.00	.....	.....	88,497.50
Relief of the poor	622.20	13,885.31	.....	.....	14,507.51
Building, Industrial Home School .....	.....	1,800.00	.....	.....	1,800.00
Industrial Home School .....	.....	9,500.00	.....	.....	9,500.00
Building, National Homeopathic Hospital Association .....	.....	5,000.00	.....	.....	5,000.00
Women's Christian Association .....	.....	4,000.00	.....	.....	4,000.00
National Association for Colored Women and Children .....	.....	9,000.00	.....	.....	9,000.00
Children's Hospital .....	.....	5,000.00	.....	.....	5,000.00
St. Ann's Infant Asylum .....	.....	5,000.00	.....	.....	5,000.00
St. John's Church Orphanage .....	.....	1,500.00	.....	.....	1,500.00
Washington Hospital for Foundlings .....	.....	3,500.00	.....	.....	3,500.00
St. Rose Industrial School .....	.....	5,000.00	.....	.....	5,000.00
House of the Good Shepherd .....	.....	5,000.00	.....	.....	5,000.00
Building, Association for Works of Mercy .....	.....	5,000.00	.....	.....	5,000.00
Columbia Hospital for Women and Lying-in Asylum .....	.....	18,027.50	.....	.....	18,027.50
Reform School .....	.....	36,616.00	.....	.....	36,616.00
Building, Reform School .....	.....	5,500.00	.....	.....	5,500.00
Washington Aqueduct .....	.....	20,000.00	.....	.....	20,000.00
Salaries and contingent expenses, offices	250.11	154,759.30	.....	.....	155,714.92
Streets	27,622.63	272,446.71	5,744.87	.....	305,813.89
Metropolitan police	1,011.56	337,193.88	.....	.....	338,205.44
Buildings, Metropolitan police	1,358.40	5,498.85	.....	.....	6,857.25
Fire department	1,174.46	110,771.63	.....	.....	111,946.09
Telegraph and telephone service	1,805.16	14,283.44	.....	.....	16,088.60
Courts	1,140.70	14,950.56	.....	.....	16,106.26
Pay of referees, Court of Claims .....	.....	.....	.....	.....	350.00
Public schools	1,323.27	517,148.35	.....	.....	520,881.11
Buildings and grounds, public schools	1,130.04	67,013.82	69,992.01	.....	138,135.87
Miscellaneous expenses	546.19	9,277.73	.....	.....	10,820.13
Health department	380.51	42,269.81	.....	.....	42,650.32
Contingent expenses	30.00	835.00	.....	.....	865.00
Interest and sinking fund .....	.....	1,213,947.97	.....	.....	1,213,947.97
Completion of sewerage system .....	.....	.....	.....	.....	53,408.73
Expenses of assessing real property	4,809.65	.....	.....	.....	4,809.65
Payment of judgments	16,762.73	.....	.....	.....	16,762.73
Water department	11,086.86	188,002.50	16,796.19	.....	215,885.55
Guaranty-fund, District of Columbia .....	.....	.....	.....	\$38,054.78	38,054.78
Redemption of Pennsylvania avenue paving scrip, act July 19, 1876 .....	.....	.....	.....	1,649.66	1,649.66
Refunding erroneously paid taxes, etc. .....	.....	.....	.....	2,757.22	2,757.22
Washington special-tax fund .....	.....	.....	.....	15,152.93	15,152.93
Redemption of tax-lien certificates .....	.....	.....	.....	894.08	894.08
Redemption of assessment certificates .....	.....	.....	.....	899.27	899.27
Redemption fund .....	.....	.....	.....	702.55	702.55
Policemen's relief fund, District of Columbia .....	.....	.....	.....	4,482.09	4,482.09
Firemen's relief fund, District of Columbia .....	.....	.....	.....	1,060.81	1,060.81
Total	99,787.98	3,662,461.99	116,245.62	65,653.39	4,002,398.54

206 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887.

Title of appropriations.	Detail.	Total.	Aggregate.
IMPROVEMENTS AND REPAIRS.			
Repairs to concrete pavements, 1887.....	\$61, 189. 12		
Repairs to concrete pavements, 1886.....	4, 740. 35		
Repairs to concrete pavements, 1885.....	24. 48		
Total for repairs to concrete pavements.....		\$65, 953. 95	
Materials for permit work, 1888.....	23, 712. 55		
Materials for permit work, 1887.....	58, 873. 05		
Materials for permit work, 1886.....	4, 185. 22		
Materials for permit work, 1885.....	188. 10		
Total for materials for permit work.....		86, 958. 92	
Continuation of surveys of the District with reference to the extension of various avenues, 1887.....	3, 995. 88		
Continuation of surveys of the District with reference to the extension of various avenues, 1886.....	352. 20		
Total for above surveys.....		4, 348. 08	
Work on sundry avenues and streets and replacement of pavements, 1887.....	257, 539. 74		
Work on sundry avenues and streets and replacement of pavements, 1886.....	483. 32		
Total for above work on streets.....		258, 023. 06	
Sewers, 1887.....	36, 108. 61		
Lateral sewers, 1886.....	662. 00		
Boundary street auxiliary sewer, 1882.....	44. 36		
Total for above sewers.....		36, 814. 97	
Aggregate for improvements, etc.....			\$452, 098. 98
BRIDGES.			
Ordinary care of Benning's, Anacostia, and Chain Bridges, 1887.....		673. 46	
Salary of bridge-keeper, 1887.....		605. 60	
Repairing and maintaining bridges under the control of the Commissioners, 1887.....	9, 505. 47		
Repairing and maintaining bridges under the control of the Commissioners, 1886.....	1, 724. 98		
Total for maintaining bridges.....		11, 230. 45	
Aggregate for above bridges.....			12, 509. 51
CHARITIES AND CORRECTIONS.			
Washington Asylum:			
Salaries of employes, 1887.....	12, 755. 68		
Contingent expenses, 1887.....	36, 349. 90		
Contingent expenses, 1886.....	2, 510. 19		
Erecting and furnishing one hospital ward, 1887.....	3, 495. 00		
Erection of building, 1886.....	284. 75		
Total for Washington Asylum.....		55, 395. 52	
Georgetown Almshouse:			
Support of inmates, 1887.....	1, 641. 50		
Support of inmates, 1886.....	147. 00		
Total for Georgetown Almshouse.....		1, 788. 50	
Government Hospital for the Insane:			
Support of the insane, 1887.....	75, 132. 00		
Support of the insane, 1886.....	13, 365. 50		
Total for Government Hospital.....		88, 497. 50	
Transportation of paupers and prisoners, 1887.....	2, 868. 62		
Transportation of paupers and prisoners, 1886.....	278. 00		
Total for transportation, etc.....		3, 146. 62	
Relief of the poor, 1887.....	13, 885. 31		
Relief of the poor, 1886.....	622. 20		
Total relief of the poor.....		14, 507. 51	
Industrial Home School:			
Support of, 1887.....	9, 500. 00		
Erection of building for, 1887.....	1, 800. 00		
Total for Industrial Home School.....		11, 300. 00	

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 207

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887—Continued.

Title of appropriations.	Detail.	Total.	Aggregate.
CHARITIES AND CORRECTIONS—continued.			
Repairs and completion of the building for the National Homeopathic Hospital Association, 1887		\$5,000.00	
Women's Christian Association, 1887		4,000.00	
National Association for Destitute Colored Women and Children, 1887		9,000.00	
Children's Hospital, 1887		5,000.00	
St. Ann's Infant Asylum, 1887		5,000.00	
Maintenance of Church Orphanage, 1887		1,500.00	
Washington Hospital for Foundlings, 1887		3,500.00	
St. Rose Industrial School, 1887		5,000.00	
House of the Good Shepherd, 1887		5,000.00	
Building for Association for Works of Mercy, 1887		5,000.00	
Columbia Hospital for Women and Lying-in Asylum, 1887		18,027.50	
Reform School:			
Support of inmates, 1887	\$36,616.00		
Family building, 1887	5,500.00		
Total for Reform School		42,116.00	
Aggregate for charities, etc			\$282,779.15
WASHINGTON AQUEDUCT.			
Engineering and maintaining, 1887			20,000.00
SALARIES AND CONTINGENT EXPENSES, OFFICES.			
Executive office:			
Salaries of employés, 1887	19,842.90		
Contingent expenses, 1887	2,490.00		
Contingent expenses, 1886	2.55		
Contingent expenses, 1885	257.64		
Contingent expenses, 1884	40.00		
Total for executive office		22,633.09	
Auditor's office:			
Salaries of employés, 1887	16,200.00		
Contingent expenses, 1887	273.07		
Total for auditor's office		16,473.07	
Assessor's office:			
Salaries of employés, 1887	13,464.10		
Contingent expenses, 1887	974.75		
Contingent expenses, 1886	6.25		
Contingent expenses, 1885	39.32		
Total for assessor's office		14,484.42	
Collector's office:			
Salaries of employés, 1887	16,500.00		
Contingent expenses, 1887	699.98		
Preparing an exhibit of all outstanding taxes in arrears, 1887	2,000.00		
Total for collector's office		19,199.98	
Attorney's office:			
Salaries of employés, 1887	8,300.00		
Contingent expenses, 1887	300.00		
Contingent expenses, 1886	47.24		
Rent of office, 1887	100.00		
Total for attorney's office		8,747.24	
Coroner's office:			
Salary of coroner, 1887	1,800.00		
Contingent expenses, 1887	434.50		
Contingent expenses, 1886	16.00		
Total for coroner's office		2,250.50	
Engineer's office:			
Salaries of employés, 1887	58,406.38		
Contingent expenses, 1887	4,547.14		
Contingent expenses, 1886	166.18		
Contingent expenses, 1884	4.10		
Total for engineer's office		63,123.80	
Sinking-fund office:			
Salaries of employés, 1887	2,400.00		
Contingent expenses, 1887	300.00		
Contingent expenses, 1886	5.45		
Total for sinking-fund office		2,705.45	

208 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887—Continued.

Title of appropriations.	Detail.	Total.	Aggregate.
WASHINGTON AQUEDUCT—continued.			
Inspector of gas and meters' office:			
Repairing and maintaining apparatus, 1887.....	\$726. 48		
Repairing and maintaining apparatus, 1886.....	6. 44		
Repairing and maintaining apparatus, 1885.....	2. 05		
Total for inspector of gas and meters' office.....		\$734. 97	
Fuel, ice, gas, repairs, etc., offices, 1887.....	5, 000. 00		
Fuel, ice, gas, repairs, etc., offices, 1886.....	362. 40		
Total for fuel, ice, gas, etc.....		5, 362. 40	
Aggregate for salaries and contingent expenses.....			\$155, 714. 92
STREETS.			
Sweeping, cleaning, and sprinkling streets, avenues, and alleys, 1887.....	53, 909. 16		
Sweeping, cleaning, and sprinkling streets and avenues, 1886.....	2, 280. 42		
Cleaning alleys, 1886.....	1, 248. 83		
Total for cleaning streets, avenues, and alleys.....		57, 438. 41	
Current repairs to streets, avenues, and alleys, 1887.....	24, 744. 44		
Current repairs to streets, avenues, and alleys, 1886.....	102. 00		
Current repairs to streets, avenues, and alleys, 1885.....	23. 07		
Total for current repairs to streets, etc.....		24, 869. 51	
Current repairs to county roads and suburban streets, 1888.....	1, 874. 30		
Current repairs to county roads and suburban streets, 1887.....	31, 576. 78		
Current repairs to county roads and suburban streets, 1886.....	2, 291. 10		
Total for repairs to county roads, etc.....		35, 742. 18	
Cleaning sewers and basins, 1887.....	24, 849. 04		
Cleaning lateral sewers and basins, 1886.....	893. 82		
Cleaning lateral sewers and basins, 1885.....	55. 16		
Total for cleaning sewers, etc.....		25, 798. 02	
Cleaning tidal sewers, 1886.....	1, 221. 36		
Cleaning tidal sewers, 1885.....	21. 45		
Total for cleaning tidal sewers.....		1, 242. 81	
Purchase of and repairs to pumps, 1887.....	2, 960. 78		
Repairs to pumps, 1886.....	82. 77		
Total for pumps.....		3, 043. 55	
Parking commission, 1887.....	16, 564. 30		
Parking commission, 1886.....	1, 266. 58		
Total for parking commission.....		17, 830. 94	
Street lamps, lighting, etc., 1887.....	92, 766. 90		
Street lamps, lighting, etc., 1886.....	18, 235. 75		
Total for street lamps.....		111, 002. 65	
Opening and extending suburban streets, 1887.....		25, 075. 25	
Constructing county roads and suburban streets, 1887-'88.....		3, 132. 05	
Constructing main and pipe sewers, 1887-'88.....		53. 36	
Construction of suburban sewers, 1887-'88.....		685. 16	
Aggregate for streets.....			305, 913. 89
METROPOLITAN POLICE.			
Salaries of officers and members, 1887.....		317, 453. 40	
Rent of headquarters and substation, 1887.....		1, 200. 00	
Fuel.....		1, 823. 64	
Repairs to station houses, including police court building, 1887.....	1, 996. 21		
Repairs to station houses, 1886.....	397. 50		
Total for repairs to station houses, etc.....		2, 393. 71	
Contingent expenses, 1887.....	9, 647. 13		
Contingent expenses, 1886.....	614. 06		
Total for contingent expenses.....		10, 261. 19	
Constructing cells in third precinct station house, 1887.....		598. 50	
Police, signal, and telephone system for first precinct, 1887.....		4, 475. 00	
Erection of brick stables, concreting the yards, concreting and paving cellars, setting stone steps at sixth and seventh precinct station houses 1887.....		5, 498. 85	
Purchase of site and erection of station house, 1886.....		1, 358. 40	
Aggregate for police department.....			345, 062. 69

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 209

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887—Continued.

Title of appropriations.	Detail.	Total.	Aggregate.
FIRE DEPARTMENT.			
Salaries of officers and members, 1887.....		\$85,413.49	
Repairs to engine-houses, 1887.....		2,985.07	
Repairs to apparatus, new appliances, and purchase of hose, 1887.....	\$3,663.24		
Repairs to apparatus, 1886.....	155.67		
Purchase of hose, 1886.....	125.50		
Total for repairs to apparatus, etc.....		3,944.41	
Fuel, 1887.....	1,427.00		
Fuel, 1886.....	76.36		
Total for fuel.....		1,503.36	
Forage, 1887.....	3,834.21		
Forage, 1886.....	524.20		
Total for forage.....		4,358.41	
Contingent expenses, 1887.....	6,502.12		
Contingent expenses, 1886.....	292.73		
Total for contingent expenses.....		6,794.85	
Purchase of horses, 1887.....		2,450.00	
Purchase of new engine, 1887.....		4,496.50	
Aggregate for fire department.....			\$111,946.00
TELEGRAPH AND TELEPHONE SERVICE.			
Salaries of employes, 1887.....		8,788.92	
General expenses, 1887.....	5,494.52		
General expenses, 1886.....	1,805.16		
Total for general expenses.....		7,299.68	
Aggregate for telegraph and telephone service.....			16,088.60
COURTS.			
Police court:			
Salaries of employes, 1887.....	9,328.00		
Contingent expenses, 1887.....	2,445.78		
Contingent expenses, 1886.....	115.70		
Marshal's fees, 1887.....	1,322.50		
Total for police court.....		13,211.98	
Judicial expenses, 1887.....	1,854.28		
Judicial expenses, 1886.....	1,025.00		
Judicial expenses, 1883.....	15.00		
Total for judicial expenses.....		2,894.28	
Pay of referees in Court of Claims, 1885.....		350.00	
Aggregate for courts.....			16,456.26
PUBLIC SCHOOLS.			
Support:			
Salaries of officers, teachers, and janitors, 1887.....		453,598.52	
Rent of school-rooms, 1887.....	7,354.00		
Rent of school-rooms, 1885.....	300.00		
Total for rent of rooms.....		7,654.00	
Fuel, 1887.....	16,628.22		
Fuel, 1886.....	5.68		
Total for fuel.....		16,633.90	
Repairs and improvements to school buildings and grounds, 1887.....	19,625.63		
Repairs to school buildings, 1886.....	138.98		
Total for repairs to buildings, etc.....		19,764.61	
Contingent expenses, 1887.....	19,941.98		
Contingent expenses, 1886.....	578.61		
Contingent expenses, 1885.....	2,104.99		
Contingent expenses, 1883.....	4.50		
Total for contingent expenses.....		22,630.08	
To assume the expenses incurred for night schools, 1886.....		600.00	
Aggregate for support of public schools.....			520,881.11

210 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887—Continued.

Title of appropriations.	Detail.	Total.	Aggregate.
BUILDINGS AND GROUNDS, PUBLIC SCHOOLS.			
Addition to Columbia road school building, 1887-'88.....		\$1,309.81	
Addition to Hamilton road school building, 1887-'88.....		2,644.44	
School building on lot adjoining the Wallach building, 1887-'88		5,482.18	
School building on lot adjoining the Sumner building, 1887-'88		4,069.72	
School building in fourth division, 1887-'88		10,307.00	
School building in second division, 1887-'88		4,222.68	
School building in seventh or eighth division, 1887-'88.....		41.69	
School building in third division, 1887-'88		4,038.78	
Purchase of site and erection of a building in the second division, 1887-'88.....		14,246.32	
Purchase of sites and erection of buildings, 1887.....		67,013.82	
Purchase of sites and erection of buildings, 1886.....		1,130.04	
Purchase of site for building in second division, 1887-'88.....		9,985.00	
Purchase of site for building in seventh or eighth division, 1887-'88.....		7,188.39	
Purchase of site for building in third division, 1887-'88		6,456.00	
Aggregate for school sites and buildings			\$138,135.87
MISCELLANEOUS EXPENSES.			
Repairs and replacement of hay scales, 1887		222.85	
Rent of District offices, 1887		3,600.00	
General advertising, 1887.....	\$2,994.52		
General advertising, 1886.....	273.75		
General advertising, 1885	991.13		
Total for advertising		4,259.40	
Books for register of wills' office, printing, damages, etc., 1887	2,460.36		
Books for register of wills' office, printing, damages, etc., 1886	272.44		
Books for register of wills' office, printing, damages, etc., 1885	5.08		
Total for above books, printing, etc.....		2,737.88	
Aggregate for miscellaneous expenses			10,820.13
HEALTH DEPARTMENT.			
Salaries of employés, 1887.....		23,579.99	
Removal of garbage, 1887.....		14,999.89	
Contingent expenses, 1887.....	3,489.93		
Contingent expenses, 1886.....	380.51		
Total for contingent expenses		3,870.44	
Purchase of horse for pound service, 1887		200.00	
Aggregate for health department.....			42,650.32
SUNDRIES.			
Interest and sinking fund on the bonded indebtedness, 1887.....		1,213,947.97	
General contingent expenses, 1887	835.00		
General contingent expenses, 1886.....	30.00		
Total for contingent expenses		865.00	
Payment of judgments		16,762.73	
Expenses of assessing real property, 1886		4,809.65	
Completion of sewerage system		53,408.73	
Aggregate for above			1,289,794.08
Grand aggregate of expenditures on account of the government of the District of Columbia			3,720,851.60
WATER DEPARTMENT.			
Pay of employés, 1887		9,522.20	
Contingent expenses, including books, stationery, forage, advertising, printing, and other necessary items and services, 1887			
Contingent expenses, including books, stationery, forage, advertising, printing, and other necessary items and services, 1886	2,392.26		
	239.68		

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 211

I 3.—Statement of the expenditures of the government of the District of Columbia for the fiscal year ending June 30, 1887—Continued.

Title of appropriations.	Detail.	Total.	Aggregate.
WATER DEPARTMENT—continued.			
Contingent expenses, including books, stationery, etc., as above, 1885	\$8.00		
Total for contingent expenses, etc		\$2,639.94	
For engineers and firemen, coal, material, and for high service in Washington and Georgetown, pipe distribution to high and low service, including public hydrants, fire-plugs, material, and labor, repairing, and laying new mains and lowering mains, 1887-'88	16,771.86		
For engineers and firemen, coal, etc., as above, for 1887	73,598.68		
For engineers and firemen, coal, etc., as above, for 1886	10,847.18		
Total for above general expenses		101,217.72	
Interest and sinking fund on water-stock bonds, 1887	44,610.00		
Interest and sinking fund on account for increasing the water supply, 1887	57,239.02		
Total for interest and sinking fund		101,849.02	
Purchase of two pumping-engines, two corrugated steel boilers and necessary connections, etc., 1887-'88		24.33	
Refunding erroneously paid water rents, etc		640.34	
Aggregate for water department			\$215,893.55
SPECIAL AND TRUST FUNDS.			
Contractors' guarantee fund, act June 11, 1878		38,054.78	
Refunding erroneously paid taxes, etc		2,757.22	
Redemption of Pennsylvania avenue paving scrip, act July 19, 1876		1,649.66	
Washington special-tax fund		15,152.93	
Redemption of tax-lien certificates		894.08	
Redemption of assessment certificates		899.27	
Washington redemption fund		702.55	
Policemen's relief fund, District of Columbia		4,482.09	
Firemen's relief fund, District of Columbia		1,060.81	
Aggregate for special and trust funds			65,653.39
Grand aggregate for water, special, and trust funds			281,546.94
Grand aggregate of expenditures for all purposes during fiscal year			4,002,398.54
The above expenditures may be classified as follows:			
From United States appropriations:			
For support of the government of the District of Columbia			1,833,721.43
For completion of sewerage system			53,408.73
From revenues of the District of Columbia			1,836,478.66
From water fund of the District of Columbia			215,893.55
From special and trust funds			62,896.17
Total			4,002,398.54

J.

REPORT OF THE ATTORNEY, DISTRICT OF COLUMBIA.

OFFICE OF THE ATTORNEY
FOR THE DISTRICT OF COLUMBIA,
Washington, D. C., September 16, 1887.

GENTLEMEN: I herewith submit a brief summary of the business of this office for the year ending June 30, 1887.

While the number of cases disposed of in the courts has not been materially larger than during the preceding year, the labors of the office, especially owing to the increase in advisory duties, has been much greater. The increase in litigation has been mainly owing to the unusual number of tax cases and suits involving questions more or less mooted for a number of years, but not sooner brought to definite disposition. Other causes of the increased demand upon the office have been the preparation of police regulations under the recent act of Congress, participation in various police trials, new duties involved in the trial and commitment of insane persons, and the necessary co-operation of the office in the endeavor to close out various matters of administration.

No hearings have been had in District cases in the Supreme Court of the United States, the duties in that court having been confined to matters of practice in respect to motions, the preparation of causes for hearing, and the like.

In the Court of Claims the *Carroll* case has been disposed of on the merits, resulting in judgment against the District for \$36,040. As only the question of damages was involved and the amount awarded is quite as small as could possibly be hoped for on the evidence, no appeal was taken from the judgment of the court.

In the Supreme Court of the District 73 cases were finally disposed of; of which 22 were in general term, 4 in equity, 8 in the circuit court, and 39 in the criminal court. In this enumeration no account is taken of cases partially disposed of or advanced towards final disposition.

During the same period 115 new cases were instituted, to which the District or its officers were parties; of which 54 were commenced on the law side, 13 in equity, and 48 were docketed on the criminal side of the court.

Among the cases disposed of in the general term may be specially mentioned the following:

The *Barker* case was a certiorari brought to attack the validity of a certain special assessment for improvements under the law of the legislative assembly of August 10, 1871. In this case the holding of the court was in favor of the petitioner, declaring void the assessment in question. This case will be taken to the Supreme Court of the United States, whose adjudication of the questions involved is deemed of the highest importance in view of the many somewhat similar cases since

instituted and the large amount involved. The immediate point established by the court in this case turned upon the question of what constituted adjoining property within the meaning of the act of assembly of August 10, 1871, and the organic act of Congress of February 21, 1871. But other questions deemed more important to the interests of the District are presented by the case, of which it is hoped to procure a definite decision by the Supreme Court of the United States. The decision of the supreme court of the District in this case at the same time disposed of three practically similar cases growing out of the same improvement.

The *Brewer* case is of far reaching importance, the decision of the court being, in brief, that a tax deed made in pursuance of a sale for the unpaid taxes of a certain year passes the property sold to the purchaser discharged of the liens of all taxes remaining due and unpaid at the time of the sale. If this decision stands as law, its effect will be to deprive the District of all unpaid taxes standing on the books of the District prior to the date of sale, whether such taxes were or were not included in the collector's advertisement. This case has been appealed to the Supreme Court of the United States.

In two of the *Alexandria Canal, Railroad and Bridge Company* cases, the court held that the tax laws of the District contemplate only the taxing of corporeal property, and not incorporeal rights, and that therefore a tax directly upon the franchise of a corporation, as an independent and distinct subject-matter, is invalid and void. The court further held that where a tax is assessed upon different kinds of property as a unit, and a part of the property is not legally taxable, the whole tax will be void, unless the invalid portion can be clearly separated from that which is valid. In the third case, in which the District sought to recover from the company a bonus of \$4,500, advanced to the company by the late corporation of Georgetown, the District was defeated by the plea that the action of the corporation was *ultra vires* and void, and that the District should therefore not recover. These cases are in negotiation, looking to a satisfactory adjustment between the company and the District, failing which they will be taken to the Supreme Court of the United States.

In the case of *Strasburger*, the court held that the act of Congress of June 14, 1878, authorizing the District Commissioners to make and enforce building regulations, authorizes every form of such regulations that the Commissioners may deem advisable, and which may reasonably be considered as a proper subject of such regulations. Accordingly, a building regulation requiring, as a condition precedent to the issuing of a permit to erect a building for theatrical purposes, that a majority of the persons residing in the square and those in the opposite square fronting the proposed structure should signify their approbation of the application, was upheld as not unreasonable.

In the case of the *Anglo-American Insurance Company*, it was held that under the act of March 3, 1877, governing the assessment of taxes in the District, the annual assessment must be closed upon the first day of July of each year, and all taxes computed from that date for the year ending June 30 following; and that property which may come into existence during the interval is not liable to taxation until the commencement of the next tax year. As the company has since gone into liquidation and the question involved in the decision can again be raised should an attempt be made to recover the tax paid to the District, no appeal has been taken in this case.

In *Rosecrans v. The District*, decided just prior to the close of the preceding year, but not then reported and not noticed in my last report, the court held, on demurrer that the certificate of taxes issued by the collector under the act of February 6, 1879 (20 Stats., 283), is binding upon the District as against a bona fide purchaser who acts thereon, and discharges the property from the lien of any tax omitted from such certificate; and this, although the certificate was not issued to the owner of the land, nor applied for by him. As this case has since been dismissed by the complainant, the District has been deprived of the opportunity to take the opinion of the Supreme Court of the United States upon this important question, but it is the intention of this office to take such opinion upon the first occasion that offers itself. If the decision of the supreme court of the District is to stand as law, the collector of taxes is obliged on the demand of any person, the merest stranger, to furnish certificates of taxes due on all the property in the city, at the risk of loss to the District of all taxes omitted in the press of the work. This result ought to be made impossible by an amendment of the act, if necessary, limiting in plainer terms the right to the certificate to the owner or his agent; for the supposed saving of the act that the omission of the tax "shall not affect the liability of the person who owned the property at the time such tax was assessed to pay the same", is a delusion, there being no provision of the law whereby a tax on real estate may be enforced against the owner personally.

In the case of the *Baltimore and Potomac Railroad Company*, an attempt was made by the District, by prosecution in the police court, to hold the company liable for obstructing Maryland avenue by unloading freight therein in violation of the act of the legislative assembly of June 26, 1873. But the court held that inasmuch as the organic act provided that no act of the assembly should embrace more than one subject, which should be expressed in its title, and that any act embracing a subject not expressed in its title should be void as to such subject; and, inasmuch as the act of the assembly was entitled "An act to regulate the running of railroad trains and engines on the streets and avenues of the city of Washington," so much of the act as prohibited the unloading of freight was in contravention of the organic act and void. No provision of law exists whereby this decision may be reviewed in the Supreme Court of the United States. The act creating the police court provides that the judgment of the supreme court of the District in cases originating in the police court shall be final.

The *Blake* case was a suit in equity to enjoin the Commissioners from a proposed widening of Columbia road, one of the highways in the county of Washington. In this case it was contended in behalf of the District that, by virtue of the powers enumerated in Chapter IV of the Revised Statutes of the United States relating to the District, the Commissioners had full authority to widen the road as proposed, subject only to the right of the owner of land taken to obtain damages by condemnation of a jury, as provided in that chapter. On the other hand, it was urged that the Commissioners had no authority to widen the road without first obtaining from Congress specific authority in that behalf, and an appropriation to pay such damages as might be occasioned the property holder. Although no decision was delivered by the court, the effect of the court's holding is understood to be that, while the Commissioners have the authority claimed, they yet cannot exercise it in advance of an appropriation, and this decision leaves the Commissioners in the anomalous position of having authority to open roads, etc., upon condemnation and assessment of damages, but

having no authority so to do until Congress shall have first appropriated the necessary amount to pay such damages, confessedly not ascertainable until after the condemnation. This condition should be remedied by some such enactment as that the judgment of condemnation should be like any other judgment against the District. This would secure the property holder against being deprived of his property without just compensation, and so meet what seems to be the objection of the court in the premises.

The case of *Case* against *Forsyth* was a petition for mandamus upon the surveyor to admit to record a subdivision of certain lots in the city of Washington. In order to guard against confusion and difficulty in the records and accounts of the assessment and tax offices, the predecessors of the present Commissioners made an order directed to the surveyor, requiring him to report for examination and approval of the Commissioners all proposed subdivisions before admitting them to record. But the court held that, under the provisions of Chapter XVI of the Revised Statutes of the United States relating to the District of Columbia, the duty of the surveyor in admitting a subdivision to record is purely ministerial, after he shall have once ascertained that the lots or parcels into which it is proposed to subdivide any square or lot agree in dimensions with the whole of the square or lot, and that the dimensions expressed on the plat of the proposed subdivision are the true dimensions of the parts so expressed. Under this ruling every property holder is at liberty to subdivide and re-subdivide his property, at will, without regard to the confusion and difficulty thereby occasioned in the records and accounts of assessments and taxes. This should be remedied by some such legislation as conditioning subdivisions upon proper certificates as to payment of taxes and apportionment of assessments.

In the case of *Hennick* it was held that so much of the license act of the late legislative assembly as imposes a license tax upon commercial agents, commonly known as drummers, is void, as being a regulation of commerce and so in conflict with the Constitution of the United States, in accordance with the decision of the Supreme Court of the United States in the case of *Robbins v. Taxing District of Shelby County* (120 U. S. R., 489), and *Corson v. Maryland* (*Id.* 502). This case has been appealed to the Supreme Court of the United States.

In the cases of *Cochran* and *Standiford*, which were prosecutions under "An act to prevent violations of the Sabbath," passed by the late corporation of Washington, the court held the act in question void, as not having received the written approval of the mayor. This decision disposes of a question of long standing and active agitation.

In the case of *McDonald v. Littlefield* the District was made party as claiming a special assessment against the property involved. The improvement was made in 1876 and 1877, but no notice to the owner was given at the time, the property being then supposed to belong to the United States. On discovering, in 1885, that the property belonged to private owners, the District gave the notice prescribed by the act of assembly of August 10, 1871. But as this act provided that the assessment should be made immediately after the improvement and notice given to the owner within ten days after the assessment, it was contended that these provisions were mandatory, and not merely directory, as the District claimed. The court adopted the former view and held the assessment invalid as a lien upon the property. This question had not hitherto been brought to disposition and has always been mooted by the bar. Fortunately, its determination has been had at a time when

it is of little practical importance, most of the assessments affected by it having been settled; and the tax itself in such cases having been valid, and only the question of lien being involved, the payments made are not recoverable back from the District. The amount involved in the particular case makes an appeal to the Supreme Court of the United States impossible.

As the cases disposed of in the other branches of the court were determined at special term, and when not insignificant have been carried up for consideration to the higher branch of the court, further notice of them is unnecessary.

The appeals from the police court to the criminal court, which formerly were much in arrears, have been much more promptly reached for disposition, and no doubt is now entertained of the ability of the office to procure the court at such times as may enable it to keep abreast of this annoying class of cases.

The operations of the office have, during the past year, brought prominently to attention several matters in addition to those already noticed, which deserve more than passing mention.

For some years it had been the custom to commit insane persons in the District to the Government Hospital for the Insane, in accordance with the provisions of Chapter IV, Title 59, of the Revised Statutes of the United States, namely: In the case of indigent insane, upon the order of the Secretary of the Interior, based upon an application by a member of the board of visitors, and a certificate showing that two respectable physicians had appeared before a judge of the supreme court of the District, or a justice of the peace therein, and deposed to the insanity of the person, etc., and that two respectable householders had similarly appeared and deposed to his indigence; and in the case of an independent or pay patient, upon certificate of two respectable physicians, accompanied by a written request for the admission from the nearest relatives, legal guardian, or friend of the patient.

But by the decision of the supreme court of the District in *ex parte* Bryant (3 Mackey, 489) it was declared that no civilian can *in invitum* be secluded as insane who has not been officially found to be so by inquisition of a jury according to the process inherited by the District from the State of Maryland. This process begins by a petition to the court to be filed "by any individual standing in a near relation to the supposed lunatic." But several cases have arisen in which no such individual would assume the duty or responsibility of filing the requisite petition, and such duty and responsibility have fallen to this office; and by invocation of the provisions of section 335, Revised Statutes, District of Columbia, and the act of June 11, 1878 (sec. 6, 20 Stats., p. 107), which make it the duty of the Commissioners, as successors to the board of police, among other things, to preserve the public peace, prevent crime, and protect the rights of persons and property, we have procured the court to entertain petitions filed by the Commissioners for the institution of the necessary proceedings to effect adjudication as to the sanity of any person charged with lunacy dangerous to himself or others.

There is but one place in the District for the seclusion of the insane, namely, the Government Hospital already mentioned. By act of June 16, 1880 (21 Stats., p. 275), admissions to this hospital are now limited to such persons as are entitled to treatment therein under the provisions of Chapter IV, Title 59, Revised Statutes, United States (secs. 4838 to 4858), and the act of March 3, 1875 (18 Stats., p. 486). As respects

civilians, such persons include indigent insane from the District of Columbia and independent or pay patients. By the act of March 3, 1877 (19 Stats., p. 347), the indigent insane from the District can be admitted upon order of the executive authority of the District, and such order only, while by sections 4853-54 of the Revised Statutes, United States, the independent or pay patients can be admitted only "whenever vacancies exist," and then on the certificate of physicians, "accompanied by a written request for the admission from the nearest relatives, legal guardians, or friends of the patient;" and the friends of the patient are required to comply with the regulations of the Hospital "in respect to payment of board and in all other respects."

It is thus seen that no provision exists for the commitment of a civilian not indigent, but dangerously insane, whose relatives, guardian, or friends may not apply for his admission to the Hospital, and render themselves liable for his board, etc. This should be remedied by legislation providing for admission to the Hospital of a non-indigent person adjudged dangerously insane, and enabling the District or Hospital authorities to have recourse to his property for payment of the necessary expenses of his commitment and care; which latter object might be accomplished by the appointment of a committee, in the usual way, charged with the control and application of the patient's estate and made liable to the District or Hospital for the expenses indicated. And as the confinement of the supposed lunatic, prior to and during the necessary proceedings to try the question of his sanity, is necessary for obvious reasons, the legislation should go further and provide for his apprehension and confinement during such period. Such legislation as here suggested is an imperative need, as numerous applications are made for the commitment of non-indigent persons supposed to be dangerously insane.

Under existing law there is no provision for condemning a right of way for a sewer or a public alley. Such necessary public improvements should be so provided for as not to leave them at the mercy of a single obstructionist, as is now the case. Where the topography of the country demands that a sewer leave the lines of the streets, one person of a hundred can now stop its construction; and though all the owners in a square but one desire an alley, the one may prevent its opening.

Attention is asked to the estimates submitted by this office, which include an increase in the allowance for office rent and salaries, particularly the salaries of the attorney and assistant attorney. The office of attorney of the District was evolved out of the old office of corporation attorney of Washington. The duties of the corporation attorney were confined to the city of Washington, and were very limited in scope; and at the time of the creation of the late Territorial government the salary was \$2,000 (act of July 24, 1869). On the creation of the Territorial government the office of attorney of the District was created and he was given an assistant, their respective salaries being fixed at \$3,000 and \$1,500 (act of legislative assembly of August 23, 1871). The duties of the office were still limited in scope, but a special assistant was soon found to be necessary to the proper administration of the office. The duties of the office have been steadily growing in number and exaction, and in 1879 this fact was recognized by Congress (20 Stats., p. 405), which increased the salaries of the attorney and assistant attorney to \$4,000 and \$1,900, respectively. And in 1885 (23 Stats., p. 311) the salary of the assistant was still further increased to \$2,000. With the growth of the District, the increase of its population, and the unprece-

dented additions to the litigation and administrative operations of the District government, the duties and labors of the office have since then outrun all expectation. From its creation the office was administered as one of many professional demands upon its incumbent, the District being regarded as one of clients. On no other hypothesis could adequate ability have been brought to its administration. But now, with the increase of the District's litigation, and more especially the advisory duties of the office, it has assumed quite the proportions of a department of the District government, and its exactions wholly negative all idea of other professional engagements. Under these circumstances the District is asked to discharge the rent of the offices now in use, which are wholly given up to the purposes of the District, and estimates are submitted for \$5,000 for the attorney and \$3,500 for the assistant attorney, at less than which figures it is confidently urged it will be impossible to procure counsel equal to the work, in the face of the plain fact that attention to the duties of the office must be, in effect, exclusive.

The report of Mr. Padgett, special assistant attorney, showing his labors and their result in the police court, is appended.

Below I repeat my estimates heretofore submitted:

ESTIMATES.		
Attorney.....		\$5,000
Assistant attorney		3,500
Special assistant attorney		1,400
Clerk		1,400
Messenger		300
Rent of office.....		480
Contingent expenses		500

ALBERT G. RIDDLE,
Attorney of the District of Columbia.
The COMMISSIONERS DISTRICT OF COLUMBIA.

OFFICE OF THE ATTORNEY
OF THE DISTRICT OF COLUMBIA,
Washington, D. C., September 15, 1887.

SIR : I have the honor to submit herewith a full report of the cases tried in the police court from July 1, 1886, to June 30, 1887, inclusive:

Number of cases tried.....	7,211	Continued.....	40
Convictions	6,479	Suspended	24
Dismissals.....	572	Amount of fines imposed	\$38,355
Nol. pros	96		

The cases were distributed among the following different violations of law :

Bar open after hours.....	29	Disorderly conduct	2,568
Bar open on Sunday.....	235	Disorderly in church	17
Barber-shop open on Sunday.....	1	Disorderly in county.....	291
Bathing in river.....	9	Disorderly in Georgetown	210
Building fire in street.....	1	Disorderly in market	1
Concealed weapons.....	150	Disorderly in school	1
Contempt	11	Driving over pavement	24
Cow-yard	17	Driving through funeral.....	7
Cruelty to animals	275	Driving through procession	2
Destroying private property	91	Enticing prostitution	3
Destroying public property	3	Excavation without permit.....	8

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Excavation without light.....	6	Unlicensed ball	2
Fast driving.....	49	Unlicensed bar	58
Fast driving over bridge.....	1	Unlicensed beer garden.....	1
Female dog at large	1	Unlicensed billiard table.....	3
Firing pistol in street	23	Unlicensed book-agent.....	3
Firing pistol on Sunday	1	Unlicensed cattle dealer	8
Indecent exposure.....	143	Unlicensed commercial agent	10
Injuring trees	12	Unlicensed eating-house	5
Nuisance	30	Unlicensed entertainment	8
Obstructing alley.....	7	Unlicensed hack.....	6
Obstructing gutter	1	Unlicensed hotel.....	2
Obstructing pavement.....	18	Unlicensed junk dealer.....	1
Obstructing street.....	9	Unlicensed livery stable	4
Placing rubbish in street	14	Unlicensed liquor dealer	26
Playing ball.....	28	Unlicensed omnibus	1
Profanity	880	Unlicensed peddler	5
Refusing to assist officer	7	Unlicensed pistol gallery.....	1
Refusing to pay hack hire	18	Unlicensed produce dealer.....	68
Removing sod	1	Unloading freight	1
Selling liquor to minors.....	23	Vagrancy	1,194
Selling liquor on Sunday.....	19	Violating bill-posting law	1
Selling potatoes by measure	1	Violating building regulations	89
Selling unsound food	4	Violating cart law	13
Setting off fire-crackers.....	6	Violating hack law.....	43
Throwing stones	105	Violating market regulations	3
Trespass on parks	115	Violating snow law	6
Tying horse to tree.....	7	Wasting Potomac water	267
Unlicensed apothecary	2		

Very respectfully,

JAS. E. PADGETT,

Special Assistant Attorney District of Columbia.

A. G. RIDDLE, Esq.,

Attorney District of Columbia.

K.

REPORT OF THE CORONER.

CORONER'S OFFICE, DISTRICT OF COLUMBIA,
Washington, August 25, 1887.

GENTLEMEN: In compliance with your request of July 12 I have the honor to transmit herewith a tabular statement of the transactions of this office for the year ending June 30, 1887.

Also an estimate of the sums required for its support for the fiscal year ending June 30, 1889.

Respectfully, your obedient servant,

D. C. PATTERSON,
Coroner.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Statement of deaths certified by the coroner during the year ending June 30, 1887.

Willful violence—

Suicides:

By drowning	4
By gunshot wounds	11
By hanging	1
By irritant poison	5
By narcotic poison	1

Homicides:

By gunshot wounds	5
By incised wounds	2
By other weapons, etc	3
By infanticide, etc	16

Accidents and negligence:

By burns	2
By crushed by embankments	2
By caught in machinery	1
By drowning	25
By fracture of sternum	2
By fracture of vertebra	1
By gunshot wounds	4
By hemorrhage of cord	1
By injuries from falls	12
By lightning stroke	1
By neglect at birth	1
By overlaid by mother	4
By poison by aconite	1
By run over by cars, wagons, etc	12
By sunstroke	2
By shock, fracture of legs	1

Whole number of white deaths, 156 = 32.63 per cent.; whole number of colored deaths, 322 = 67.37 per cent; total, 478.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 221

Statement of deaths certified by the coroner during the year ending June 30, 1887—Cont'd.

Diseases:

Apoplexy, cerebral.....	9
Asthma	2
Anasarca	3
Abcess of kidney.....	1
Alcoholism.....	1
Bronchitis, capillary	18
Bronchitis, chronic	1
Cholera infantum.....	25
Cholera morbus.....	2
Convulsions, infantile	13
Convulsions, general.....	2
Congestion of lungs.....	15
Calcification of aorta	1
Croup.....	2
Colic, intestinal.....	1
Cancer of face.....	1
Cancer of uterus	1
Congestion of brain	1
Debility, congenital.....	21
Debility, senile	6
Diarrhea	14
Dysentery	1
Dropsy of pericardium	4
Epilepsy.....	2
Embolism	2
Enteritis, acute	2
Exhaustion.....	1
Fever, typhoid.....	1
Fever, congestive.....	1
Gastro-enteritis	2
Gastritis.....	1
Heart disease	33
Hernia, strangulated.....	2
Hemorrhage from spleen	1
Heart clot	1
Inanition	18
Intermittent fever	6
Marasmus	1
Metritis	1
Malignant tumor	1
Phthisis pulmonalis.....	16
Pneumonitis	12
Pulmonary hemorrhage	7
Peritonitis, chronic.....	1
Paralysis	3
Pleuritis, chronic	1
Rheumatism	2
Still-birth, known	23
Still-birth, unknown.....	36
Stomatitis	1
Spinal disease	1
Trismus nascentium	17
Ulcers, scrofular	1
Unknown.....	14
Whooping cough	2
Total suicides.....	22
Total homicides.....	10
Total infanticides, etc.....	16
Total by accidents and negligence	72
Total by disease	299
Total by still-birth.....	59
Total of all cases certified by the coroner	478

222 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Statement of deaths certified by the coroner during the year ending June 30, 1887—Cont'd.

OCCUPATIONS.

Boatman	1	Housekeeper.....	10
Barkeeper	2	Huckster.....	3
Brewer.....	1	Hostler	3
Brakeman.....	1	Hod carrier	2
Brass worker	1	Insurance agent.....	1
Barber	2	Iron worker	1
Baker	1	Laborer	51
Butler.....	1	Line man.....	1
Carpenter	3	Laundress	8
Cook.....	4	Law student	1
Constable	1	Lawyer	2
Cattle broker	1	Midwife.....	1
Clerk	10	Nurse	2
Contractor	1	Oysterman	2
Clergyman	2	Printer.....	5
Cabinet maker	1	Restaurant keeper.....	1
Coach maker	1	Soldier	4
Conductor	1	School-boy	1
Cigar maker.....	1	Seaman	1
Confectioner	1	Stone mason	1
Driver	3	Shoe man	2
Druggist	2	Servant	4
Dyer.....	1	Stone-cutter.....	1
Dairyman	1	Tailor.....	1
Engineer	1	Tinner	2
Engraver.....	1	Watchman	2
Farmer	3	Waiter	4
Fireman	3	Without occupation	307
Fisherman	1		
Gardener.....	1		478

Cause of death.	Total deaths.	White.		Colored.		Age.												
		Male.	Female.	Male.	Female.	Under 1 month.	Between 1 month and 1 year.	1 to 5 years.	5 to 10 years.	10 to 20 years.	20 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 to 80 years.	80 to 90 years.	90 to 100 years.
Zymotic diseases	7			2	5	...	3	...	...	...	1	...	...	2	1	...	...	...
Constitutional dis- eases	88	7	3	46	32	45	26	5	1	...	1	...	2	2	1	3	...	2
Local diseases.....	190	39	21	64	66	4	47	16	2	6	12	20	14	26	17	14	12	...
Violence.....	120	61	5	35	19	16	3	3	5	15	32	13	11	16	5	...	1	...
Still-birth	59	8	6	21	24	...	...	...	...	...	...	...	...	...	...	...	...	...
Unknown	14	4	2	6	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....	478	119	37	174	148	65	79	24	8	21	45	34	27	44	24	16	16	2

Cause of death.	Nativity.							
	District of Columbia.	Other parts of United States.	Ireland.	Germany.	England.	Italy.	Porto Rico.	Norway.
Zymotic diseases.....	5	2						
Constitutional diseases	75	12	1					
Local diseases	80	93	8	6	3			
Violence	47	58	8	3		1	1	1
Still-birth.....	59							
Unknown	13	1						
Total	279	166	17	9	3	1	1	1

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 223

Statement of deaths certified by the coroner during the year ending June 30, 1887—Cont'd.

SOCIAL RELATION ABOVE THE AGE OF 20 YEARS.

Sex and color.	Widow or widower.	Married.	Single.	Total.
Male, white	14	35	34	83
Female, white	12	6	2	20
Male, colored	8	30	20	58
Female, colored	20	20	4	44
Total	54	91	60	205

MONTHLY MORTALITY.

July, 42; August, 31; September, 39; October, 40; November, 49; December, 39;
January, 41; February, 31; March, 51; April, 30; May, 42; June, 43.

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REPORT OF THE COMMITTEE ON LIBRARIES, AND ANNUAL REPORT FOR SCHOOL YEAR ENDING JUNE 30, 1887.

To the honorable the Commissioners of the District of Columbia:

We have the honor to submit herewith the report of the Board of Trustees of the public schools for the year ending June 30, 1887.

For statistics of attendance, accommodations, number of teachers employed, expenditures, and other similar subjects of appropriate inquiry, reference is made to the very full and accurate reports to the Board of Superintendents Powell and Cook, which are adopted and appended as a part of this report.

ACCOMMODATIONS.

The very liberal provision made by Congress at its last session for increase and improvement of the school-room accommodation afforded the children of this District will, upon completion of the seven new buildings provided, happily relieve to a considerable extent the unfortunate state of affairs disclosed in the report of the Board for the year ending June 30, 1886.

As, however, the startling insufficiency of the accommodation provided, and the unsanitary, unsuitable, and dangerous character of a considerable portion of it therein referred to, were not the result of inadequate provision in the appropriation bill of any one year for the constantly, and, happily, growing demands of our public schools, so, as is demonstrated by the reports of the two superintendents, and the estimates for the ensuing year heretofore submitted, it will require another and at least as liberal an appropriation for the same purpose to afford accommodation equal to the imperative needs of the schools. The increase in attendance for the current over that of the last school year is 1,550 pupils, or enough, of themselves, to fill 4 of the 7 new buildings provided.

The 3 remaining new buildings, together with 2 others provided for the preceding year, and now completed, supply accommodation for 40 schools of 50 pupils each. But the statistics accompanying the report of Superintendent Cook show that, of the 168 schools for colored children in operation last year, 92 schools, or considerably more than one-half, were compelled to be restricted to half-day exercises, for the reason that the school rooms were 46 less in number than the schools to be accommodated. To this add the fact, as shown by the same report, that 25 of the school rooms thus provided and used are "very objectionable for such uses," by reason of "dampness, insufficiency of light and means of ventilation, too limited dimensions," and general inadaptability of construction, and some idea of the needs of the colored schools

alone, in the particular of additional accommodations, may readily be conceived.

The statistics for the first six divisions accompanying the report of Superintendent Powell, embracing all the white schools and the colored schools outside the city limits, show the number of schools to have been 400, and the number of school rooms, owned and rented, good, bad, and indifferent, to have been 331, necessitating half-day limitation upon 134 of the 400 schools, a little more than one-third of their number. And of the 331 rooms occupied, 30 of those owned and nearly all of the 25 rented rooms, are shown to be dark, small, and inconvenient, without means of ventilation, dangerous to the health of the pupils, and entirely unfit for school purposes.

It is not a sufficient answer to the considerations here presented, that, as has sometimes been suggested, many of the pupils subjected to the half-day limitations are of tender years, for whom a school day of three hours is sufficient. Apart from the forcible presentation of the objections to the half-day system, even in the case of the primary grades, presented in the annexed report of Superintendent Powell, emphasized by the concurrent testimony of the supervising principals, embodied in the reports of some of them, that the afternoon half-day schools are irregularly attended and marked by deficient progress on the part of the pupils, the fact stands out that, among the whites, the 134 half-day schools fell only nine short of equaling the entire aggregate of schools of the first, second, and third years, which were 143 in all; and that, in the colored schools, apart from the fact that the half-day system extended up into the fourth grade, the statistics show that the educational privileges of very nearly two-thirds of the colored children in the District of Columbia are restricted to the first and second grades.

The total attendance of colored children, outside of the High School was 10,069, and of these 6,028 were in the first and second grades. To make those grades half-day schools, therefore, is to take away one-half of the school life of those pupils.

As stated in the last report of the Board, we employ and pay teachers enough to conduct the exercises of every one of the schools during the whole of every school day in the year. If only sufficient school-rooms were provided, every pupil could have the benefit of the whole of every school day throughout the year, without the cost of a single additional dollar. As was stated in that report—

We occupy precisely the attitude, from a business stand-point, of an employer who finds it necessary to engage and pay the wages of a thousand skilled employes, but who receives the benefit of only half-days' labor from a third of their number because of his own refusal to provide working room for them all.

From the foregoing it will be apparent that responsibility for the fact, if it be a fact as has been charged, that "thousands of children have been practically denied admission to the schools," does not rest with the trustees. Every legally qualified applicant, of whatever color, race, or condition, has been promptly admitted into the schools, and provided with a competent teacher, the best the Board has been able to secure, for the whole of every school-day in the year. Here the functions of the Board in this particular end. It has no power to provide for the erection of school buildings. If it had that power, the school accommodations of the District would equal the imperative needs of the school population. In the absence of it, it can only set forth distinctly and clearly what those needs are, as it did in its last report and as it attempts to do here, and urge upon your honorable body, and upon Congress as well, the importance and duty of supplying them.

THE WASHINGTON HIGH SCHOOL.

Your attention is again invited, respectfully but most urgently, to the imperative necessity of enlarging the Washington High School Building. In our report for last year, the following language was employed upon this subject :

The present High School Building is crowded to its utmost capacity, and, with a largely increased attendance over that of last year in the schools of the eighth grade, it necessarily follows either that the capacity of that building must be enlarged before the opening of the next school-year, or that a large number of pupils entitled to admission there must be excluded for want of accommodation. The latter alternative is one which, in justice to the youth of the District and to the community, every effort, it is hoped, will be exerted to avert.

The failure of this recommendation to meet the approval of Congress has been attended by the unfortunate consequence, as shown by the report of Principal Paul, that 150 of our pupils, whose proficiency and deportment have entitled them to admission to the High School, are unavoidably denied its privileges except for one-half of each day of the school year. At the present rate of increase in attendance, no diminution of which is either to be expected or desired, the number of pupils so circumstanced will, for the next and succeeding years, inevitably be considerably larger, unless additional accommodation is provided; resulting in a discrimination between equally meritorious pupils neither fair nor just, and a hurtful restriction of school privileges as to a large number of them, to which they should not be subjected.

The self-obviously necessary enlargement thus recommended by the Board in its report for last year was antagonized, and presumably defeated by the objection that the accommodation for the lower grades was also insufficient, and that, of the two, the latter were entitled to paramount consideration.

If the alternative really is to deprive either the lower or the higher grades of educational opportunity, this Board concurs unanimously and most heartily in the proposition above stated. It is deemed proper, however, to invite your attention, and through you that of the law-making power, to the following considerations, namely:

In all grades below the High School, each school of children is under the charge of a single teacher, taught in a single room, and requiring little or no apparatus or appliances for their due and efficient instruction other than such as can be readily supplied to the room they occupy. Until, therefore, school buildings adequate to the accommodation of the school population of this District can be afforded, the evil can be at least alleviated by the creation of a rental fund, such as was given us for the current year by Congress at its last session, by the aid of which the accommodations we have can be supplemented by such as can be rented. These are frequently, and indeed generally, not well adapted to the purpose, and should be availed of only by reason of emergency, until adequate and suitable accommodations can be provided.

No such temporary relief, however, can be afforded the pupils of the overcrowded High School. In it the instructors teach, not classes, but subjects. The same teachers instruct in due rotation, in the same class rooms and with the aid of the same apparatus, all the classes in the natural sciences, for example; and so it is with the instructors in language, in mathematics, and in each of the other subjects taught. It is, consequently, indispensable that the High School Building should accommodate all High School pupils. Supplemental accommodations in the way of rented school-rooms would necessitate supplemental sets of

teachers, apparatus, and appliances, which it would, of course, be impossible to provide.

In the light of these facts, and with a view to the due accommodation and advantage of all the school-going population of the District, the enlargement of the High School Building before the opening of the next school year is, in the opinion of the Board, a public necessity, urgently calling for prompt attention at the hands of the Commissioners and of Congress.

Attention is especially invited to the following statement in reference to the graduates of the High School, contained in the report of Principal Paul: "So far as is known, and the principal's acquaintance extends to all the male graduates, there is no one who is not engaged in some useful and active vocation." Attention is also called to the honorable distinction already attained in its comparatively brief career by this branch of the public schools of the District, as indicated in the extracts from articles of Prof. H. B. Adams, of the Johns Hopkins University, and Prof. A. B. Hart, of Harvard College, quoted in the principal's report.

The Board regrets to note the loss of four of the best of the High School teachers, resigned in June last to accept positions in private institutions, at higher salaries. The fact emphasizes its own suggestion.

COLORED HIGH AND NORMAL SCHOOLS.

The recommendation contained in our last report relative to a new and suitable building for the Colored High School is also herewith renewed with increased earnestness. The building at present used in part for the purposes of this school is in an extremely inconvenient location for the great body of the pupils for whom it is designed; it has little or no special adaptation for the purpose, and, in addition, every available seat in it is urgently needed to supply the wants of the section of the city in which it stands for schools of lower grades. The number of pupils in attendance is now between three and four hundred; the school is a most useful and important factor in the moral and intellectual development of a large and deserving portion of the population of the District, bearing their due share of taxation and other public burdens; and we submit that a suitable high school building, comparing favorably in location and appointments with the Washington High School, is both necessary and just.

Prior to the current school year the salary of the principal of the Miner or Colored Normal School was paid by the trustees of the Miner fund. Our last report called attention to the fact that the trustees would withdraw from that arrangement at the close of the then current year, and that adequate provision for the normal school in question for the year now current was therefore rendered necessary. The appropriation bill for the current year, however, imperatively forbade any increase in the number of teachers receiving \$900 per annum or upwards - and the principal of this school, Miss Lucy E. Moten, having theretofore been employed and paid as above stated, and consequently not appearing at all upon the roll of teachers of the public schools of the District of Columbia, the Board was powerless to offer her any higher salary than \$850 per annum, or \$500 less than the salary heretofore paid her by the trustees of the Miner fund, as, also, \$500 less than is paid for like service in the Washington Normal School. The Board desires publicly to recognize the devotion to her work which has induced Miss Moten to continue in her position under the circumstances above

stated, and also to urge, not only that a salary of \$1,350 per annum be authorized for her for the ensuing year, but that an additional appropriation of \$500 be asked to relieve the hardship upon her for the present year, resulting, it must be believed, merely from an inadvertence in the appropriation.

NIGHT SCHOOLS.

The appropriation for the maintenance of night schools for the past school year, \$2,500, was applied in equal shares to the establishment and conduct of schools for white and colored pupils. Six schools in all, three for each class, were maintained, opening in November and closing in March, the instructors in each school consisting of one principal and three assistant teachers. The total number of sessions were 52, lasting two hours each. A total enrollment of 544 in the white and an average enrollment of 467 in the colored schools is reported, indicating an actual attendance of about 1,000, about equally divided between the two races.

With a view to accomplishing the greatest good to the greatest number, the three white schools were established at the Franklin, the Henry, and the Peabody Buildings, all in the city of Washington. All applicants were fairly accommodated in these several schools; but their location of necessity practically confined their benefit to residents of Washington and Georgetown. It is highly desirable that schools, upon, of course, a more limited but suitable scale, should also be established at or near Anacostia, Tennytown, and Benning's, for the accommodation of residents of the rural sections of the District, quite a number of whom have been desirous of participating in the benefit of the night schools.

The night schools for the colored people were located in the Sumner, Cook, and Lincoln Buildings, and, as shown by the report of Superintendent Cook, these schools were wholly inadequate to accommodate the applicants, many of whom failed of admission.

The course of instruction in the night schools included the subjects of arithmetic, English composition, including business and letter forms, history and geography of the United States, and penmanship, together with courses of lectures on physiology and hygiene, physical geography, and civil government.

That these schools, organized and maintained for the benefit of persons whose circumstances in life preclude attendance upon the ordinary day schools, are doing a good and useful work, is abundantly manifested, both by the number and the marked interest of the students in attendance. The Board respectfully recommends that the appropriation for their maintenance be increased to at least \$7,500, which sum, it is hoped, will admit of adequate accommodations for all applicants, and also of the establishment of schools at several convenient points in the county, for the accommodation of persons to whom the city schools are inaccessible.

MANUAL TRAINING.

The school year ending June 30, 1887, is, it is believed, destined to become a notable one in the history of our public schools as that in which manual training was first introduced. The appropriation for the purpose, though enough perhaps for a beginning, was too small to admit of the introduction of this added feature upon any extended scale. The establishment and due equipment of a successful school of wood-work, in the High School Building was the utmost that could be

effected with the means at the command of the Board. The extent and character of its success is shown in the report of Principal Paul.

The appropriation of \$5,000 for the purpose of industrial education for the current year has rendered possible a considerable enlargement of the facilities for manual training, with a gratifying prospect of usefulness. Schools of wood-work have been established in several localities for instruction of male pupils in the seventh and eighth grades, as also cooking schools for instruction of females of those grades; while at the High School Building a school of metal-working, including iron and steel forging, molding, and turning, is in successful operation. The work is popular, and gives promise of great usefulness. An appropriation of \$10,000 for the ensuing year is earnestly recommended, both that the work may be extended, and that facilities for it may be afforded pupils of proper age in all the divisions. The appropriation for the present year has been insufficient for the latter purpose, enabling the establishment of manual schools in only five of the eight divisions. Constructive drawing, however, which may justly be included as a useful part of such training, is now taught, with good results, in all the divisions and in all the grades.

THE PAY OF TEACHERS.

The full text of the restriction in the appropriation bill above referred to is as follows:

No increase in salaries paid to teachers in grades now receiving \$900 or more, and no increase in the number of teachers in any of such grades, shall be made.

Several inconveniences, all of which it is conceived must have been unforeseen, have resulted from this restriction.

In the first place, the annual increase in the attendance of pupils necessitates annually an increased number of schools in all the grades; and accordingly three new eighth grade schools have been indispensably necessary to accommodate the pupils in that grade for the current year. The minimum pay of an eighth grade teacher is, and for many years has been, \$900 per annum; and as this fact was shown by the annual estimates and other data before the committees of the two Houses on appropriations when the restriction was imposed, the board has been in great doubt whether it was not intended to be a prohibition against any increase in the number of eighth grade schools. As the only alternative against closing the schools to some 150 pupils, and upon the advice of the attorney for the District of Columbia, whose opinion in the premises was obtained, the additional schools required were established and teachers of the seventh grade placed in charge of them. The fact is frankly stated, in order that if the legislative intent has been unintentionally violated, the violation may be promptly pointed out and corrected. It is difficult, however, to conceive of an intention upon the part of Congress either to limit the number of eighth grade schools so as to exclude any portion of the duly qualified applicants for admission to them, or to require that any portion of the schools of this grade shall be taught by either inferior or else by inadequately compensated teachers.

In the second place, the restriction in question disqualifies all teachers receiving \$900 or more per annum from promotion, or from receiving any increase in salary, which amounts to the same thing. Consequently, wherever vacancies have occurred in positions paying more than \$900 per annum, it has been necessary to pass over all teachers whose salary

equals that sum and fill such vacancies either from the lower grades, or else by the appointment of outside applicants of whose qualifications and efficiency but an imperfect prior knowledge could at best be had. A restriction carrying with it such consequences is, it is submitted, neither just nor expedient. It is demoralizing to teachers, and tends greatly to impair the efficiency and best interests of the schools.

ANNUAL INCREASES.

For many years prior to the existence of the present Board of Trustees, and down to the commencement of the present school year, the principle of requiring teachers to enter upon their work at a minimum salary, and of making a small addition thereto from year to year for a limited period in the case of teachers whose efficiency and success were found to merit retention in the service of the Board, has prevailed. The limited appropriation for the pay of teachers for the current year has rendered it, much to the regret of the Board, imperatively necessary to at least temporarily discontinue this method, except as to teachers whose salaries are less than \$500 per annum. The latter class of teachers have received their annual increases as heretofore.

Discontinuance of the plan in question has produced much dissatisfaction among the teachers, and at least an apparent inequality as between a good many of them. Newer teachers, whose work has necessarily been somewhat inferior to that of the more experienced teachers in their respective grades, have always been content to receive the smaller salary, under a rule which insured to them the same compensation as the older teachers at the end of a reasonable period of probation and gradation. The unavoidable suspension of the rule for the present year, however, has necessitated varying rates of compensation to teachers in all the grades receiving salaries in excess of \$500 per annum, with no certainty that the newer and consequently more poorly paid teachers will receive equal compensation with their fellow-teachers, even after they shall have attained substantially equal experience and efficiency.

If Congress shall pass a law plainly prohibiting the system here referred to, it would become the duty of the Board to fix a uniform, average salary for the teachers in the several grades, reducing the pay of the more experienced and increasing that of the newer teachers for the purpose; and if such a law is passed, that duty will be promptly performed. After careful study of the question, however, and with no possible interest in it except the welfare of the schools and just regard for the good of the teachers, the best judgment of the Board is unreservedly in favor of the system of annual increases for a limited period, which has met the concurrence and approval of all our predecessors in office, which, in its practical workings, our own experience approves, and the principle of which is observed almost without exception wherever the public school system prevails. If it is the wish of Congress that it should be discontinued, it will be easy for that body to distinctly express such wish, in which event, as above stated, the change will be immediately made; but we submit that the Board should neither be required nor expected to take a step which its judgment does not approve from no other light than that of uncertain inference and conjecture from reductions and restrictions in appropriation bills.

The opposition to these annual increases is believed to rest in considerable measure upon a misapprehension which has not unnaturally arisen from the use of the term "longevity increases" in connection

with them; creating the impression in the minds of some of the firmest friends of our schools that they are allowances to aged or worn-out teachers, analogous in principle to pensions. On the contrary, however, the maximum salary in any grade is, and always has been, attained in the fifth year of service therein; up to which time, the added experience and efficiency of the successful teachers is thought to justly merit a slight annual increase in compensation. In a majority of the grades, the maximum is attained in the third year.

With the view to placing the information before the Commissioners and Congress, the Board has instituted inquiry concerning the rule followed in this particular in all the larger cities of the Union. The responses received and now in its possession disclose no localities in which the system, substantially as pursued here, is not followed except in the cities of Charleston, S. C., New Orleans, La., and Louisville, Ky. In Albany, N. Y., Lowell, Mass., and Baltimore, Md., the period during which the annual increases are given is three years; in Buffalo and Rochester, N. Y., it is four years; in Boston, Mass., Saint Louis, Mo., Indianapolis, Ind., Milwaukee, Wis., and Minneapolis, and Saint Paul, Minn., it is five years, as here; in New Haven, Conn., and Cleveland, Ohio, it is six years; in Providence, R. I., it is seven years; in Detroit, Mich., and San Francisco, Cal., it is ten years, and in Jersey City, N. J., it extends over the period of twelve years.

The foregoing considerations are submitted, at greater length perhaps than the relative importance of the subject demands, in order that the subject itself, and the attitude of the Board towards it, may no longer be misunderstood, and that such legislation may follow as may clearly indicate the intent of Congress in regard to it. If that intent shall be at variance with the practically unanimous sense and practice of other communities in which the public school system prevails and most flourishes, and with the best judgment of this Board as well, it will be none the less unhesitatingly accepted and implicitly followed.

INCREASED COMPENSATION FOR TEACHERS.

Whatever action may be taken in regard to the system of annual increases, the Board would earnestly recommend a substantial increase in the salaries of our teachers.

The salary of messengers throughout the departments of the Government is fixed by Congress at \$840 per annum—that of what are known as assistant messengers is \$720 per annum; while the average salary of the cultivated men and women who constitute the teachers of our public schools is limited to \$670 per annum, or only \$10 per annum more than that of a laborer in the departments. All reside in the same community and subject to the same general conditions which regulate the cost of the necessities of life. That the average salary thus allowed teachers is, in the city of Washington, barely adequate to the comfortable and decent support of a single person occupying that position in life, and that it affords no possible margin for provision for sickness or old age, to say nothing of the maintenance of a family, must be apparent, not only to every citizen, but to every temporary sojourner in our midst.

Whatever difference may exist upon other subjects, the Board feels that it represents the entire community in expressing its regret at the remarkable discrimination against this most important, useful, and meritorious body of workers above pointed out. Nor is it for a moment be-

lieved, if only its attention to the subject can be secured, that the Congress of the United States will accord inferior consideration and recompense to the educating class, the teachers of our public schools, than to others whose duties are neither so important nor exacting, whose qualifications are of a less difficult order, and to whom the cost of living certainly is not greater.

The statistics contained in the report of Superintendent Powell point to a curious peculiarity of the public schools of the District of Columbia, and one which should be given due consideration in fixing the average salary to be allowed our teachers. In the public schools of all cities to whose statistics access has been had, the attendance largely preponderates in the lowest grades, the higher grades, which are the most costly, being comparatively thinly attended. But in the District of Columbia, in the white schools, while attendance in the primary grades, as compared with the population of school-going age, is fully equal to that of the most favored of our sister cities, the attendance in the higher grades is surprisingly uniform with that of the primary grades, and would indicate that, in this District, the children generally continue in school throughout the first five grades, and that substantially half of them continue throughout the entire eight grades. Thus, in the first six divisions for the last school year, there were enrolled in the first grade 3,378 pupils, in the second 2,729, in the third 2,904, in the fourth 3,097, and in the fifth 3,013; while in the sixth there were 2,294, in the seventh 1,689, and in the eighth 1,399. The enrollment in the High School was 827.

In the schools for colored children there is a diminished attendance as the grades ascend, more in accordance with the statistics of other cities. Thus, during the past year, the number of colored children in attendance in the first grade was 4,720, in the second 2,293, in the third 1,508, in the fourth 1,267, in the fifth 868, in the sixth 546, in the seventh 350, and in the eighth 220, with 276 in the High School.

The peculiarity of the white schools of the District in the particular here pointed out is easily explained. As stated, the attendance in the primary grades as compared with the population of school-going age, is equal to that of the most favored of our sister cities. But the absence of large manufacturing and other industrial enterprises deprives us of a class of pupils common to other cities, whose educational privileges are usually limited to the lowest or primary grades. With fewer accumulations of large fortunes, the wealth of the District is more equally distributed than in most large cities; and with us the average citizen is able to afford to his children opportunity to take the full course of instruction provided in the public schools. The result, and the conditions which give rise to it, are matters of congratulation to the community, and can not fail to be gratifying to all friends of education; but, as the salaries of teachers in the higher are necessarily larger than those in the lower grades, it is a self-obvious proposition that the relative cost of maintaining the schools must be greater, and that the average salary of the teachers should be proportionately higher. If in the white, as in the colored schools, three-fifths of the pupils were in the first and second grades, it would be perhaps quite possible to organize and to efficiently and satisfactorily conduct the public schools of the District upon the basis of an average salary of \$670 per annum per teacher. Under the conditions as they exist, it is respectfully submitted, a material increase in the prescribed average salary should be made.

GENERAL CONDITIONS.

Subject only to the want of adequate and appropriate school-room accommodation and the embarrassments growing out of the restrictions in regard to the compensation of teachers, above pointed out, the schools are in a thoroughly prosperous and satisfactory condition. Every applicant entitled to enter the schools has been promptly admitted to them, and provided with a competent teacher for every school hour of every school day in the year, with the fullest opportunity of attendance to that extent, except in so far as want of sufficient accommodation has necessitated resort to the half-day system. The utmost harmony has prevailed between the teachers, the officers, and the Board; the order of the schools has been excellent, and the work of the teachers and the progress and proficiency of the pupils have been not only gratifying to the trustees but highly satisfactory to parents and other parties interested as well, if frequent and general expressions of commendation, and the almost entire absence of complaint or adverse comment, may be taken as tests. Advocates of changed methods and measures, and criticism to some extent and of rather a general nature, have not been wanting in popular assemblies and the public prints; but what is here meant to be asserted is that the practical working and results of the public schools for the past and the current year would appear to have been eminently satisfactory to parents and others directly interested in them, and, so far as the knowledge of the Board extends, to have been quite free from either specific or general objection or complaint in those quarters.

The abolition of the annual examinations, at the close of the term, for advancement to the High School, and the substitution instead of the average standing maintained by the pupil throughout the year as the test for such advancement, has proven wholly beneficial. The severe physical and mental strain, so severely and generally condemned by the physicians of the city, coming at the end of a year's close application, in the midst of the heated term, has been obviated; the record thus far made by the present first-year pupils at the High School demonstrates the fact that the substituted test is fully as trustworthy and efficient, while the one apprehension which induced hesitation upon the part of the Board, viz., the fear that, in the present state of the accommodations afforded by the High School Building, the number of pupils passed by their teachers might be so great as to practically disable that institution, has happily proven to be unfounded, there being no material variance in the increase of attendance for the present over that of preceding years.

The reduction of the appointments of teachers and substitutes to a just and easily comprehended principle, resting entirely upon the qualifications of the applicant, and thus removing not only the possibility of misuse of the appointing power for personal or other unworthy ends, but also the possibility of the suspicion of such misuse, which is sometimes quite as discouraging and demoralizing, is another change for the better, tending greatly to improve the efficiency of the schools. The matter of selections for promotion does not admit of a reduction to a similar self-executing rule; but, in all cases except where the restrictions imposed by the appropriation bill for the current year have been prevented, the rule has been to promote from the next lower grades, with exclusive reference to the record for efficiency of the several teachers, giving preference when the records are equal, and only then, to the

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period of service in the particular grade. This rule has not only been found productive of both efficiency and harmony in the conduct of the schools, but has proven gratifying to the teachers as well, both as being just in itself, and as leaving them free to earn advancement by proficiency in their work, without danger of postponement through personal favor, influence or similar considerations.

Respectfully submitted,

A. H. WITMER,
JAS. M. GREGORY,
J. J. DARLINGTON,
Committee, Board of Trustees.

WASHINGTON, D. C., *December 1, 1887.*

REPORT OF SUPERINTENDENT POWELL.

To the Board of Trustees of Public Schools of the District of Columbia.

GENTLEMEN: I respectfully present herewith a report of the condition of schools in the first six divisions of the District of Columbia, which include the white schools of Washington and Georgetown and both the white and colored schools outside the city proper, for the school year ending June 30, 1887.

Please find herewith the reports of the principals of the Washington High School and the Washington Normal School, reports of the condition of the schools in the several divisions by the respective supervising principals in charge, and the reports, respectively, of the supervisors of music and drawing.

Your attention is respectfully invited to the facts set forth in each of these reports.

LENGTH OF SCHOOL YEAR.

The schools were in session 183 days.

ATTENDANCE.

The number of pupils enrolled during the year was 23,073, of which number 21,370 were white and 1,703 were colored, an increase of 875, or 3.9 per cent., over the enrollment of the preceding year.

The average enrollment was 19,285, which is 565, or 3 per cent., more than the average enrollment the previous year.

The average daily attendance was 17,910, being 637, or 3.6 per cent., greater than that of the preceding year. These pupils were distributed in schools and grades as exhibited below.

Enrollment of pupils in the several kinds and grades of schools for the school year ending June 30, 1887.

Normal School.....	40
High School	827
Grammar schools:	
Eighth grade	1,415
Seventh grade	1,720
Sixth grade	2,378
Fifth grade	3,153
Total.....	8,666

Primary schools:

Fourth grade	3,318
Third grade	3,130
Second grade	3,076
First grade	4,016

Total 13,540

Grand total..... 23,073

SCHOOLS.

The number of schools below the High School was as follows:

Grammar schools, city:

Eighth grade	26
Seventh grade	32
Sixth grade	40
Fifth grade	52

Total..... 150

Primary schools, city:

Fourth grade	51
Third grade	*48
Second grade	*47
First grade	*48

Total..... 194

County Schools:

White	28
Colored.....	28

Total..... 56

Grand total..... 400

Number of whole day schools..... 266

Number of half day schools..... 134

Total 400

The average number of pupils to a school was as follows:

High School (to a teacher) 28.5

Grammar Schools:

Eighth grade	51.7
Seventh grade	51.0
Sixth grade	53.8
Fifth grade	54.3

Primary Schools:

Fourth grade	56.0
Third grade	55.7
Second grade	53.0
First grade	62.8

County Schools:

White.....	53.4
Colored.....	60.8

TEACHERS.

Four hundred and thirty-eight teachers were employed, as follows:

Supervising principals	6
Normal School.....	5
High School	29

* Two of these schools were taught by normal school pupils.

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Grammar schools, city:	
Eighth grade	26
Seventh grade	32
Sixth grade	40
Fifth grade	52
Primary schools, city:	
Fourth grade	51
Third grade	46
Second grade	45
First grade	46
County schools:	
White	28
Colored	28
Teachers of music	2
Teachers of drawing	2
Total	438

The cost of the schools for supervision and teaching was as follows:

Supervision:	
Superintendent	\$2,700.00
Clerk	1,200.00
Messenger	300.00
Six supervising principals	11,800.00
Total	\$16,000.00
Cost per pupil (estimated on average enrollment, 19,285)	.83
Normal School:	
Principal	1,327.50
Two teachers	1,966.67
Two teachers	1,376.67
	*4,670.84
Cost per pupil (estimated on average enrollment, 40)	48.22
High School:	
Principal	2,458.33
Twenty-eight teachers	22,953.17
	25,411.50
Cost per pupil (estimated on average enrollment, 778)	32.66
Grammar schools, city (26 eighth, 32 seventh, 40 sixth, 52 fifth grade schools)	122,120.50
Cost per pupil (estimated on average enrollment, 3,868)	17.78
Primary schools, city (51 fourth, 48† third, 47† second, 48‡ first grade schools) .....	||97,831.08
Cost per pupil (estimated on average enrollment, 9,173)	10.96
County schools:	
28 white schools	18,700.40
28 colored schools	15,841.66
Cost per pupil (estimated on average enrollment):	
White (1,121)	16.68
Colored (1,305)	12.13
Special teachers (2 music teachers and 2 drawing teachers)	4,572.50
Cost per pupil (estimated on average enrollment, 19,285)	.23
Average cost per pupil for tuition in all the schools (based on average enrollment, 19,285)	15.82

It is to be regretted that the relation between school attendance and the school population can not be given. No enumeration of the children of school age residing in the District has been made since the decennial census of 1880. If education is of value as a factor in society,

* This includes the cost of teaching 6 practice schools.

† Two of these schools were taught by normal pupils.

‡ For one month the number of third-grade schools was 49.

§ For one month the number of first-grade schools was only 47.

¶ To be increased by the cost of teaching 6 practice schools (\$2,742).

and if the schools are the only tangible measure of that value, we should know the facts by means of which an estimate may be made, so far, at least, as numbers of children are concerned, of the relations between what is accomplished and what ought to be accomplished.

Provision should be made for ascertaining biennially, if not annually, (a) the number of children of school age residng in the District; (b) the number of such children attending private and parochial schools, and (c) the number of such children not attending any school, together with the reasons for non-attendance.

For a more detailed statement of attendance, please see tables appended to this report.

SCHOOL ACCOMMODATIONS.

Buildings and rooms owned and rented, in the first six divisions at the close of the school year ending June 30, 1887 (excluding the Washington High School).

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.	Total.
Buildings owned.....	6	7	8	4	5	20	50
Buildings rented.....	3	2	6	.....	.....	3	14
Total.....	9	9	14	4	5	23	64
Rooms owned.....	60	74	54	41	30	47	306
Rooms rented.....	7	3	11	.....	.....	4	25
Total.....	67	77	65	41	30	51	321

Total number of schools, 400.

It will be seen by the above table that there existed a great lack of school accommodations. To show the relation of attendance and accommodation for the succeeding year, however, it is necessary to anticipate the completion of seven school-houses now building, and some additions to other buildings, all of which will be ready for occupancy by the first of November; some of them before that date. The following table gives the facts:

Buildings and rooms owned in the first six divisions at the beginning of the school year ending June 30, 1888 (excluding the Washington High School).

	First division	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.	Total.
Buildings owned	7	9	11	4	5	20	56
Rooms owned*	68	89	78	44	31	51	361

Total number of schools (estimated), 415.

* Only 4 basement rooms are counted in these numbers.

The effort made to furnish a room for each school above the second grade it is believed will be successful (after the 1st of November), except in ten cases, and at the same time all except four schools will be removed from basements, both of which are most desirable results. In point of health many of the basement rooms that we have occupied are unsafe, and parents valuing the lives and health of their children would be wise to keep them at home rather than to send them to such rooms.

Your attention is called to the fact that it is yet necessary to rent many rooms to accommodate the growing demands of the schools.

Nearly all of these rooms also are unfit for school purposes. In many cases they are dark, small and inconvenient. In nearly all cases they are without means of ventilation. Teachers can not do good work in them; therefore the work of the school suffers, but the greatest objection to these rooms is that the health of the pupils is constantly endangered. Both teachers and pupils work to a disadvantage and in constant danger. Epidemics find in these places food for fearful ravages. The influence of such environments upon the spirits and of such atmosphere upon the vital organs is a constant depression, and can but be pernicious.

Some of the school rooms owned are no better than the rented rooms referred to above. Among these may be mentioned those in the Thomson School (6 rooms) and the Fourteenth and Q streets school (2 rooms), in the first division; the Lenox School (2 rooms) and the school at Seventh and G streets, southeast (2 rooms), in the third division; the Greenleaf School (4 rooms) and the Potomac School (4 rooms), in the fourth division; the Montgomery street school (4 rooms) and the High street school (4 rooms), in the fifth division, and 2 rooms in the Hillsdale school, in the sixth division.

The condition of some of these rooms is intelligently and specifically set forth in the reports of the respective supervising principals. I call your attention to the difficulties which the supervising principals meet in assigning to these rooms children whose neighbors attend schools that are better adapted to school purposes, also alluded to in these reports.

HALF-DAY SCHOOLS.

A half day at school is enough for a first or second grade pupil, if the school is not well taught or is in an unhealthful, uncomfortable or uninviting school room. These conditions, however, ought not to exist. The school room should be commodious, well lighted and well ventilated, clean and wholesome, and not overcrowded. Our teachers are competent to teach well, and where opportunity is given do teach well. The children who go to school in the afternoon are tired because of too much play in the forenoon. It has been the custom in the middle of the year to change the afternoon schools to forenoon schools, and *vice versa*. Thus has the condition of all the primary schools changed in the middle of the year. The progress of the children has thereby been greatly impaired.

Every child who goes to school should have a desk of his own and should not be forced to give it up to some one—he knows not whom—for half the day. The greater part of the moral effect of school life is lost to the child by the half-day school.

Time is an important element in good teaching, particularly in the primary grades, as it is a necessary element in the acquisition of knowledge and in the assimilation of thought. If knowledge is to be gained by effort, and its value proved by experiment and application before it can become a source of power to its possessor, teaching that is wholly didactic has but little in it that is purely educational. Yet the teacher who has fifty or sixty pupils to instruct in three short hours, shortened by the encroaching darkness of a winter day, can do little or nothing in the way of training. The primary pupil of six or seven years, who is learning to see, who is taking his first steps in language, can not be properly taught didactically. He learns to see, to talk, to read, to write, by seeing, talking, reading, writing; he learns numbers only by handling numbers of things; he learns forms by making and comparing forms;

and he learns to represent forms by much practice in representation. The child himself must do. The teacher's office is to direct, to guide; and as the young learner is teaching himself by self-activity, requiring much time, the exercises must be changed frequently, that he may have proper recreation, and this also requires much time.

The child's school hours should be spent in doing or in activity for specific mental improvement, alternated by doing or physical activity for recreation, enjoyment or specific physical improvement. This takes time. If the teacher has not the time to do this work right, she will dictate the scholastic part of the work and the child will suffer by loss of both the mental self-activity and the physical activity. The primary schools should take the child as they find him coming from the home, with all the perceptive faculties active, contributing to enjoyment and adding to knowledge, and should seek to teach him by the continued activity of these same faculties systematically directed for specific purposes, and should not so radically change the child's life as to make his school life a mere memory drill. But the short-time school converts the teaching into almost purely *memoriter* work.

Manual training begins in the kindergarten and should be continued in the primary school, but the child in the half-day school has no time to draw, to make forms of clay, or, by folding and cutting paper, or by laying sticks or other means; has no time to represent forms. His time must be spent in committing to memory that which he may or may not understand, because the scholastic grade work must be done.

With more time and with the teaching ability now in the schools, the child might be led to discover or to find out for himself the scholastic information we desire him to get, and might have time to verify and to make use of such information for practical ends by the effort of eye and hand, which would prove the better part of his education.

Education should accomplish the best possible mental, moral and physical good to the child, especially during the first few years of the formative period of his life. In half day-schools no moral lessons can be wrought in the presence of the child and impressed upon him. There isn't time. The teacher must dictate. Thus the moral lessons the child gets at school are the simple *ipse dixit* of one who is almost a stranger to him. The child can not be developed mentally by self-activity, or gain knowledge by investigation under the direction of the teacher. There isn't time. The teacher must dictate and the child must memorize what is dictated whether he understands it or not—not to say whether he knows it to be true or not. He can not be trained systematically in the use of eye and hand, or be given exercises for rest and physical development. There isn't time. The lessons must be learned and the desks must be cleared out that other children may come and in turn be filled with facts for examination day. That healthy, mental, moral and physical growth that can come to childhood only by wisely directed, systematic, pleasing, and conscious self-activity can not be realized in a half-day school. That pure, natural, and earnest love for truth and knowledge is never known by the child who receives without question or investigation doses of facts as from the hands of one who has diagnosed and prescribed without explanation. Most of our teachers can do the legitimate work of the primary school properly, but they complain that the half-day school does not afford the time for doing it, and their complaint is well founded. Little time is allowed for calisthenic exercises, for games, for songs and repetition of mottoes; but all effort must be directed to accomplishing the grade work, that can be done only by a continued pouring in, and a nervous, hurried and too

often meaningless memory drill. No one knows this better than the conscientious teacher, and no one speaks of it more frequently or more feelingly. That such *memoriter* work can be found in the schools is too true. That such work is found in the schools is not the fault of the teacher who is forced to do work on the half-time allotment. If we would have more and better training in school and fewer home lessons to be studied by our small children, we must give more time and better opportunity to do the work.

Six hours may be too long for the youngest child to go to school, but four hours—two in the forenoon and two in the afternoon, or five hours—two and a half in the forenoon and two and a half in the afternoon, for the child to be alternately working and playing, improving and resting, developing mentally and developing physically, by turn, are none too many. The child is better off in such a school than at play.

NIGHT SCHOOLS.

COST.

The appropriation for night schools was \$2,500, one-half of which was given to the seventh and eighth divisions (colored schools).

Three schools were organized in the first six divisions—one at the Franklin School, one at the Henry School, one at the Peabody School.

Each school had a corps of 4 teachers, consisting of a principal and three assistants. The cost of each school was \$8 per evening, or \$24 for three schools. The schools opened in November and closed in March, with three sessions a week, on Mondays, Wednesdays and Fridays.

There were 52 sessions, which cost \$1,245 for teaching. Other expenses of the schools, as for fitting up the school rooms with gas-fixtures and other appliances, for gas and fuel, etc., are included in the general expenditures for day schools.

ENROLLMENT AND ATTENDANCE.

These schools enrolled 544 pupils, 473 of whom were males and 71 were females. The average attendance was less than 60 per cent. of the entire enrollment. Many, however, of those who were enrolled were present but one session. These ought not to increase the whole enrollment, as they probably came out of curiosity or as adventurers. If the number of those attending but one session were taken from the enrollment, the attendance would not fall below 60 per cent. of the entire enrollment.

THE PUPILS.

The ages of pupils ranged from thirteen years to forty-six years. Most of the pupils, however, were young, the average age being less than eighteen years. All were engaged during the daytime in some useful avocation, and it is believed were for that reason unable to attend day school. With hardly an exception, not considering the adventurers, all manifested great interest in their work and a desire to learn. One discouraging feature must be mentioned, viz., but a small percentage of the pupils in attendance were enrolled in the night schools of the preceding year.

INSTRUCTION.

The general course of instruction embraced arithmetic, English composition (including business and letter forms), United States history and geography connected therewith, and penmanship. The

pupils were divided into three grades, each grade being instructed in the branches named above in accordance with the requirements of the pupils in the grade. In addition the principal of each school gave courses of lectures to the respective grades each evening on physiology and the laws of health, physical geography and civil government. One class in geometry was formed, which did satisfactory work in the elementary part of that subject.

There can be no doubt of the usefulness of these schools. The interest manifested and the progress made both warrant an effort to increase their number and to broaden their course of instruction. Courses in higher mathematics and in mechanical drawing should be provided, if possible, another year for such as desire to pursue these branches.

COUNTY SCHOOLS.

An effort was made during the year to give the county schools all the advantages possessed by those in the city. As some of these schools have many grades of pupils, the different kinds of work laid down for each grade in the course of instruction could not be thoroughly done in all cases.

The teachers of these schools were advised to reduce the number of classes in such studies as drawing, penmanship, and music, and to so adapt their work to the needs of the pupils that they might be taught as one class, or at most as two classes. To further this end, the teachers were called together many times during the year to advise with the special teachers of the above-named branches of study and with the superintendent.

The work of the schools in all branches of study was made more flexible and much freedom was given the teacher to exercise his individuality and good judgment in the choice and assignment of work.

The special teachers of music and drawing were directed to supervise these studies in the county schools as closely as in the schools of the city.

It was thought that the Mount Pleasant, Anacostia, Hillsdale, and Mott Schools, especially, should offer the same advantages as the best schools of the city, so that parents would have no desire to send their children from home to attend school in grades below the High School. An effort was made to induce the parents to assist in the accomplishment of this desirable result. It has been my pleasure to observe a deep interest and pride in the home school manifested on the part of many parents who send to these suburban schools.

No one teacher in any of these four schools will hereafter have more than two grades to teach, and no teacher having two grades will have a large number of pupils in either grade, while most of the teachers will have a single grade to teach, as is the case in the city schools.

Except in the matter of grading, all the county schools have equal advantages with those in the city. I believe that nowhere can there be found better country schools than are taught in the District of Columbia. This, of course, is due in part to the system that has prevailed for many years, but too much credit can not be given to the faithfulness and intelligent effort of the teachers employed in these schools. Some of these teachers carry on the work of three or more grades in a single school, and, I am pleased to state, keep the work well in hand and show results that will not suffer by comparison with those attained with more favorable grading and attendance.

The teachers of the county are, as a rule, paid as well as those in the city who do corresponding work. Some principals of schools, however, besides teaching eighth grades and having the responsibility of the government of a community of schools, teach also two, three, or four grades of pupils (the number of pupils, of course, in each grade being small). The work of such teachers is very heavy and the responsibility great. I do not see why such teachers should be paid less than is paid for corresponding work in the city. As much is expected of them, their responsibility is as great, their work is as severe, while at the same time they work under many disadvantages.

INSTRUCTION IN LANGUAGE AND GRAMMAR.

A commendable effort was made during the year by teachers of all grades to make the teaching of English practical and effective. The results are made known by the supervising principals in their respective reports, to which your attention has already been called. The writing of detached sentences without sequence, having little or no relation, was discouraged, and the expression, both orally and in writing, of groups, bodies, or units of associate thought in connected discourse, was encouraged.

The first and more important purpose of all language teaching, beginning with the primary school, should be to train the child in the use of his vocabulary in the expression of associate thought in connected discourse. If a child is first made to see groups of related thought as represented by tableaux, pictures, animals, part of plants, parts of the human body, and other objects, and is made to see the parts of such groups in their proper relation, he can be led to express or represent in the words of his vocabulary such groups as entreties, and by thus doing he may be led to use language correctly and effectively, and may be taught the value of a definite and accurate use of the same.

Children's vocabularies lack many idioms necessary for the expression of relations which they see and desire to express. These idioms should be given the child by the teacher. Thus may the child be trained to make oral and written descriptions. Like methods should be pursued in training children to make oral and written narrations and comparisons. It will be found in making written productions that the child will need to know certain grammatic idioms, as plurals, possessives, and other forms, as of verbs, pronouns, etc.; that he must know certain arbitrary laws of capitalization and other facts which he can understand and appreciate when he desires to express in written form what he has orally constructed.

This part of grammar the child should be caused to discover and learn by proper methods as its use becomes necessary. Thus he learns, first, composition idioms, and, second, grammatic idioms, which together constitute the grammar of the language. Thus should composition and grammar be introduced into the lowest grade of school. The making of composition (oral) should precede the learning of grammar, thereby developing the necessity and creating a desire for a knowledge of grammar, as well as giving the opportunity to learn it understandingly.

The teachers of the first-grade schools were asked at the beginning of the year to devote from one week to two months to training their children to see groups of associate thought and to make oral compositions representing such groups before beginning to teach their children words or letters by sight. This was done, first, to round out the vocabularies of the children by adding to them the lacking composition idioms, and,

second, to prepare the pupils to see words as the representations of thought, and to see forms of words as the representations of modifications of thought.

Composition or the construction of English, for the representation of thought seen and understood by the child, was emphasized in all the grades of schools, but systematic grammar, as explained above, was not neglected.

The results of the year's work prove that children should be able to make English composition, below the grade of abstract discussion and pure invention, as good as that which they can read understandingly. That is, children of the first grade should write, correct in all particulars, lessons as good as those found in the first reader, while children of other grades should be able to represent what they see and know correspondingly well. This, it is believed, is what our schools should seek to accomplish as a product rather than the parsing, analyzing, and diagramming of complete English.

Effort was made during the year to secure good expression and methodical arrangement of thought in oral and written recitations. Pupils were led to make topical outlines of subjects studied and to follow the outlines in presenting the subjects orally, or in writing. Intelligent work of this kind results not only in improved speech and written composition, but also in better methods of study and of thought. By such work school exercises are relieved of drudgery and become at once a fascinating employment and an effective educating power.

The spelling of all words used in writing was emphasized. An effort was made to make the pupils unwilling to write words of whose orthography they were uncertain until the dictionary or other authority had been consulted. The result was an improvement in the spelling of words in ordinary use by the pupils, as shown by the written work. Oral spelling was not wholly discontinued, but was used to fix the orthography of words not frequently used in writing, thus guarding against the contraction of vocabularies that might result from the indolence or carelessness of pupils.

The chief purpose of the work in spelling, however, during the year was to fix the habit of ascertaining the correct orthography of words, if it was not already known, before attempting to write them.

INSTRUCTION IN READING.

If properly taught, no subject in the school course gives more enjoyment to the learner than reading; none offers better means of improvement. No subject offers better opportunity for training pupils in correct habits of study and investigation; no subject is better adapted to create a desire for knowledge and to prepare the pupil to gratify that desire by his own effort. No other subject gives power that is safer in the hands of its possessor.

On the contrary, if carelessly or mechanically taught, no subject yields fewer good results. If not wisely taught, no subject gives power that may be made more productive of harm. To train the pupil in the proper use of this power should be an important purpose of most of the teaching in this subject. This involves the cultivation of an appreciation of good literature and a liking for useful books. These can result only from an acquaintance with, and a carefully directed study of, such literature and such books.

If the child is to be given the power to read, the minimum of education in this subject must include a knowledge of what to read. On

leaving school the child will seek amusement on the plane of his appreciation. If he reads for entertainment, he will read such literature as he can understand and appreciate. It should be the effort of the school, systematically directed, to cultivate the understanding and the appreciation of the child to that plane on which, no matter what avocation in life he may pursue, he will avoid low and pernicious literature, because it will be distasteful to him.

The teaching of reading is divided naturally into two parts; first, teaching the pupil to recognize (*a*) the words of his vocabulary, (*b*) to grasp readily the thought expressed by what is read, and (*c*) to read aloud (oral delivery); second, (*a*) training the pupil to an appreciation of what to read, (*b*) to a knowledge of how to read, and (*c*) how to use the results obtained by reading.

Experience has demonstrated that the first part of this work can be done in three or four years at most. After that the child should be trained in the second part of the work. He should read for the purpose of acquiring the subject-matter of what is read, making the acquisition of the art of reading subordinate.

It is not enough that teachers have a correct idea of the true purpose of reading in the schools; they must be given opportunity to realize such purpose by being provided with books.

The exclusive use of the school reader and the ordinary text-books in geography and history does not afford such opportunities. The reader is but a compilation of extracts, usually representative specimens of the finest productions of the best authors. But detached, the selections cannot be understood and appreciated except by him who is acquainted with the productions from which they are taken. Rarely will a pupil develop admiration for an author by reading extracts.

Ordinary text-books in geography and history serve a purpose as manuals in the hands of the children, but the chief profit in pursuing these studies should come from collateral or supplementary reading which gives reality and character and life. This collateral matter should be furnished to the schools.

It seems that it is wise to so direct supplementary reading that most, if not all, of it shall be done to explain and broaden the work of other subjects pursued in the grade. So varied is the literature on the different subjects of geography, and history, and science, that a sufficient variety of reading would be furnished by such restriction, while the work of the school would be unified and made more profitable.

At this time the seventh and eighth grade schools need to be furnished with supplementary reading to broaden and explain their work in history and geography. This is especially true of the eighth grade schools. The work prescribed for the eighth grade in these subjects cannot be done successfully without much intelligent reading on the part of the pupils. Teachers have done much to provide the schools with books, the good effects of which are easily seen on their pupils. Parents would act wisely to aid in this good work.

The attention of the Board is respectfully directed to the subject.

INSTRUCTION IN NUMBER.

The "Manuals" put into the hands of the teachers of the first and second grades at the beginning of the year have proved beneficial by securing a better understanding of the purpose of teaching this subject to young pupils as well as greater uniformity of results in the respective grades.

The following taken from the first-grade manual shows in part the direction given to all the work in this subject in the primary grades:

A method of teaching arithmetic is valuable only to the extent that it trains the child to see relations of numbers and quantities—to think clearly and to express thought accurately. Young children should be trained to see the values of numbers by observing what can be done with numbers of things. When the abstract idea is known and fully comprehended the expression representing it should be taught, and not before. All mechanical work should be avoided.

The pupils must investigate, explore, and discover; after discovering they must be trained to state in definite, accurate language the results of their investigations, explorations, and discoveries.

Unless children have clear perceptions of the numbers or quantities of the things represented, the figures and signs representing these perceptions convey but little meaning to them.

If one should attempt to prove with objects some of the problems children are asked to solve, he would appreciate many of the difficulties encountered by pupils in their work.

That one may teach numbers well he must study the child. He must understand what the child sees and comprehends.

In too many cases the pupils learn words—nothing but words.

Children can be trained to see the relations of number only by a free use of objects.

Beginners should be furnished with blocks, spools, splints, pebbles, checkers, nuts, dolls, spoons, dishes, slates, pencils, etc., with which to work. These objects are obtained easily. The children will help to furnish them.

Besides these the school-room should be supplied with the liquid, dry, and long measures, and with the materials to be measured, as well as with blackboard and crayon.

The teacher should be prepared to do the work. He should know each day what he is to teach, how he is to teach it, and why he is to teach it. * * *

The pupils should have much practice in making problems. They can be led to make any problem which they can be led to solve.

Let the pupils prove with objects the little problems which they make and solve.

This is excellent language training, as well as training in seeing things in exact numerical relations. * * *

If the pupils seem to be in doubt in any part of the work the teacher should have them use objects, after which he should give much practice in doing the work without objects. The teacher must remember that, besides teaching pupils to see things in their true numerical relations, he is to teach pupils to work accurately and rapidly. This can be done by practice; by doing.

The results of the work in number are set forth by the supervising principals in their reports.

INSTRUCTION IN PHYSIOLOGY AND HYGIENE.

In accordance with an act of Congress approved May 20, 1886, the study of physiology and hygiene, having special reference to the evil effects of the use of stimulants and narcotics, was added to the work of the schools during the year.

As required by law, the Board prescribed books on this subject to be used by the pupils.

An outline or syllabus of work was prepared for the teachers of the first grade and second grade schools where the subject was taught orally.

Sets of books (those mentioned above) were furnished the third grade schools, to be used as supplementary reading matter during the last half of the year. The subject was developed and broadened by explanation, illustration, and questioning. Much objective work was done.

Books were bought by the pupils of the fourth grade, but teachers were advised to use them as reading books to supplement the teaching of the respective subjects by objects and experiment.

Sets of books were provided for the fifth grade and were used for supplementary sight reading in connection with oral objective teaching.

Books were put in the hands of the pupils of the sixth grade to be studied, but much objective teaching was done. A gratifying feature of the work in this grade was the systematic study of subjects and a correspondingly systematic reproduction, orally or in writing, of the subjects as entires.

In this subject only incidental teaching was done in the seventh grade.

A book was prescribed for pupils of the eighth grade which was taught intelligently and with many objective helps.

Too much praise can not be given the teachers for their enterprise and intelligence in securing specimens for doing good objective work.

It is believed that this subject was taught in compliance with the spirit as well as with the letter of the law prescribing it.

MANUAL TRAINING.

It is not necessary at this time to discuss the importance of manual training as a factor in education. The value of eye and hand training in the symmetrical development of body and mind and in the preparation of the child for the duties of life is now conceded. The question is no longer, "Shall manual training have place?" but rather, "Of what shall it consist?" "To what extent shall it be carried?" and "How shall it be managed in conjunction with the other work of the schools?"

It is conceded that citizens who are to occupy different spheres of activity in life, but who are to act in mutually dependent relations in one nationality, should not be educated on diverging lines, but should, to secure that harmony of thought and action necessary to the peace and prosperity of the state, be so trained in early life that each shall understand and value properly the worth, dignity, and importance of the part acted by the others.

It is conceded that he gets most profit and pleasure from a production, whether of the mind or of the hand, who has acquired some skill in the same or kindred arts of which such production is a result; he is the best judge of the craftsman's art who has himself worked with tools; he is the best judge of architecture who has himself planned a structure; he is the best judge of a painting who has himself worked in the art; and that, therefore, in this age of mechanical appliances, industrial achievements, and art endowments, the youth who has not acquired any skill in seeing, any dexterity of hand in doing, is ill-prepared for the proper enjoyment of what surrounds him through life, or for a correct estimate of values, opportunities, and duties.

It is conceded that because technical science and skilled labor are applied to every department of industry, however menial it may seem to be relatively, that they alike who are to perform this labor and they for whom it will be done, as well as they who will direct it, should receive a training having for its purpose the preparation of each to perform his part intelligently, and that if this is not given in early life, few will get it, and if not done in the public school, for the most it will not be done at all.

It is conceded that because of the narrowing of the activities, occasioned by division of labor incident to the use of mechanical appliances and the consequent loss in variety of thought and action in acquiring the means of livelihood, that something should be done for the youth in the school as a part of his preparation for life that will give breadth and diversity to his tastes and abilities, in order that he may the more read-

ily adapt himself to the changing conditions of industries as well as to the demands for increased skill in narrow lines of labor.

It is conceded that the schools should offer opportunity and encouragement to the class of learners, who, in the past, have not had opportunity or encouragement, who can not excel or even do well in the scholastic work prescribed for the schools, but who would delight and would excel in those manual arts for which they have adaptation, but who, unless they can receive instruction and encouragement during their years of pupilage, must remain plodders, helpers, or operators in narrow lines of activity, little better than machines, helpless and dependent when their work is rendered no longer necessary by the invention of new appliances.

It is conceded that if we would see the graduates of our schools seek other employments than as clerks, book-keepers, and teachers, they must be directed in other lines of thought and have opportunity to practice the elements of other activities.

It is conceded that the loss of opportunity afforded the youth in frontier rural life, incident to the settlement of the country and the massing of population in great centers, and to the general application of machinery to labor, must be compensated by opportunity and training in the school.

It is conceded that by the introduction of manual training the schools will suffer no loss in scholastic acquirements, and that a diversity of labor and effort will be given that will be at once healthful and pleasing, and that the school will thus be made a place in which to grow strong and healthy rather than, as now, a place in which health is impaired and physical energy made unenjoyable.

DRAWING IN THE PRIMARY SCHOOLS AS A MEANS OF MANUAL TRAINING.

During the past year something has been done to increase the manual training already begun in the primary schools. The director of drawing has explained this in part in the report to which your attention has been called. It is desirable that but little time be given to drawing from flats—the imitation of what some other person has tried to do—and that systematic courses of clay-modeling, stick-laying, and paper folding, cutting, and pasting, be given the pupils of the first, second, third, and fourth grades, and that the work in drawing be confined, with proper restrictions, to the representation of forms made by the pupils, and of corresponding forms which the pupils, because of their training in making, may be led properly to see.

The work of the fourth grade should be enlarged by a course of construction of articles in cloth, leather, and other materials whose forms are modifications or combinations of the simpler forms before alluded to.

These three lines of work, with the accompanying study and representation of plant and other forms in nature which the course of instruction provides for, if systematically and carefully carried out, will afford all the eye-and-hand culture desirable in the primary schools, except that instruction in sewing at least one hour a week should be given the girls' schools of the fourth grade.

The work of the primary school here suggested is distinctively synthetic, and is both imitative and inventive.

The work will require from one hour and a half to two hours a week.

With the plans now matured, it is believed this work may be successfully done the succeeding year. Each line of work named above except sewing will be elaborated in the course of study now in preparation.

DRAWING IN THE GRAMMAR SCHOOLS AS A MEANS OF MANUAL TRAINING.

The drawing work of these grades should cultivate the habit of looking at objects methodically, and the ability to see them correctly; the taste and the judgment of pupils in the selection, and economy in the use of materials; skill in the use of tools and other appliances, and care and pride and a feeling of responsibility in the construction of objects, as well as skill in representation.

The work, as a whole, is included under three heads: Construction, representation, and ornamentation.

In each of the above lines of work the effort is first to lead the pupil to see and to decide, and afterward to make or to *do*.

The work is at first analytic, and afterward synthetic.

The pupils are led—

- (a) to see the facts of form;
- (b) to represent the facts of form (to read and to make working drawings by the "shop method");
- (c) to make patterns from the working drawings;
- (d) to construct the objects;
- (e) to represent the objects made;
- (f) to construct and represent ornamentations for those objects;
- (g) to ornament the objects;
- (h) to represent the finished or ornamented objects.

The work in construction of the different grades required by the course of instruction need not be detailed here. In general it is as follows:

Fifth year.—The making of models of card-board and other materials, the cylinder, the oblong block, the cone, the triangular prism and many objects based on these forms; the simple ornamentation of objects by the application of designs in paper made by folding and cutting; drawing leaves from nature and adapting them to decorative design. The constructive drawing to be free-hand.

Time required, one and a half hours a week.

Sixth year.—The making of models with card-board and other material, the square plinth, the cylinder, the cube, the square pyramid, the triangular prism, the hexagonal prism, and many common objects based on these forms; drawing flowers from nature and adapting them to ornament; molding leaves and flowers in clay, carving simple ornaments, borders, and designs in clay—unburned bricks. The constructive drawing to be free-hand.

Time required, one and a half hours a week.

Seventh year.—The making of models of card-board and other materials, the rectangular prism, the plinth and objects based on them; working drawings of the bracket, the hollow-flanged cylinder and the pulley; drawing leaves and twigs from nature and adapting them to ornament; molding leaves and fruit in clay. The constructive drawing to be both free-hand and instrumental.

Time required, one and a half hours a week.

(Work in shops for boys and in the cooking schools for girls.)

Eighth year.—The making of models of card-board and other materials; working drawings of the hollow cylinder, of the bolthead, of the bell, of the pulley, of the try-square, of framing (the mortise and tenon); geometric problems; drawing plant forms from nature and adapting them to ornament; molding ornaments, borders and rosettes in clay. The constructive drawing to be both free-hand and instrumental.

Time required, one and a half hours a week

(Work in shops for boys and in the cooking school for girls.)

Material.—In this constructive part of drawing the pupils will use clay, splints of different lengths and colors, colored paper, plain paper, card-board, thin wood, cloth, leather, brads, paste, glue, and thread.

Tools.—Pupils will be trained in the use of the rule, straight-edge, knife, scissors, compasses, spatula, carving chisel, pencil, needle and paste brush.

Value.—This course in drawing, adapted to training the eye and hand and the judgment is valuable because it can be done in the school room at little expense; it provides training for girls as well as for boys; its methods are psychological, its order natural and sequential, and its execution interesting and satisfying; it instructs the pupil in those facts and trains him in those arts that prepare him for the workshop provided for him later in the course, or for further study in other lines of art industry should he elect not to take the course of shop work, or, finally, it in part prepares him who may not win his bread in the workshop or the studio, to appreciate and enjoy the mechanism and arts of modern life.

WORK WITH TOOLS IN SHOPS.

For two years something has been done in manual training in the High School. Not until the past year, however, was enough done in this work for special mention.

At the beginning of the year a trained teacher was secured, and a shop was fitted up with benches and wood-working tools, in which 225 boys received instruction and practice one hour each week.

The work was successful. It was not difficult to manage it with the other regular courses of study of the school. The boys seemed to like the work and showed no disposition to withdraw from the class. Although but one hour's instruction per week was given each pupil, a marked improvement in the use of tools was noticed, and it is known that many boys did corresponding work at home for practical and useful purposes, which was furthered at least, if not induced, by the training and suggestions received in the school shop. The indications of interest in and profit by the training of hand and eye in connection with other school duties, it was believed augured the success of manual training in our schools more convincingly than pages of philosophy and argument on the subject.

This success gives encouragement to the purpose of extending the benefits of this kind of work to the upper grades of the grammar schools and of broadening its field of experiment and activity in the High School.

The Congress just closed appropriated "for the purpose of industrial instruction, including tools, machinery, material, and apparatus, five thousand dollars."

What is done, then, in manual training in the schools the succeeding year other than that done in connection with drawing must be done with \$3,630, the share of the above-named appropriation belonging to the first six divisions. This should all be expended in plant. Indeed, it is doubtful that it can be expended for any other purpose, save only for the material to be used when the shops or schools shall be in operation.

In the estimates made for teachers, janitors, rent, and fuel the establishment of these schools was anticipated and provision made for them.

In further anticipation of the establishment of these schools, five trained teachers (graduates of the Worcester Polytechnic Institute) have

been secured. Two members of the normal training class of this year, having special adaptability, it was believed, and having had much experience by home training in the arts of cookery, were induced early in the spring to enter a class for special training in cookery, in anticipation of being employed as teachers of cooking the succeeding year.

It is desirable that what the Board decides to have done in industrial education in shops the coming year should be so definite in character respecting both the kinds of work that shall be done and also the grades of pupils that shall be trained, that the results may be observed with much accuracy, and correct values be given to them. Fortunately, because of our experience and the experience of many other cities by which we may profit, our future work can not be regarded as wholly experimental.

I recommend the establishment of three shops for training in wood-working tools and the continuance of the one already established in the High School—one of the new shops to be located in the second division, one in the third, and one in the fourth. These divisions have been selected because, upon investigation, appropriate buildings or rooms connected with or conveniently located to the schools from which they will draw their pupils can be procured.

It will cost \$540 to provide 36 benches for these shops and \$700 to provide 36 sets of tools. We shall then have four shops in which first-year training in the use of wood-working tools will be given. In each of these shops 180 boys may be trained two hours a week.

The boys for one shop will come from the High School, for another shop (in the second division) from the eighth grade schools, and for the other two shops, from the eighth and seventh grade schools of the third and fourth divisions, respectively. The last two shops will probably accommodate all the eighth and seventh grade boys of those divisions that will elect to take the work.

The plant for these schools will cost \$1,240 in round numbers. In these and the shop we now have 720 boys may be trained two hours a week, or double that number one hour a week.

The work in the shops will include—

BENCH WORK.

The correct method of using planes, handsaws, chisels, gouges, brace and bits, hammer, gauge, and other tools, in the working of different kinds of wood.

The laying out of work with knife and pencil, using try-square, bevel, and dividers, and working from drawings made by the pupil himself.

The making of plain and of more complex mortise-and-tenon joints, dovetailing, and plain cabinet making.

The making of articles of practical utility for the schools and shops.

The putting together of work with brads, nails, screws, and glue.

The care and sharpening of edged tools.

The use of circular saws.

Lectures on woods and other material used in the shops, showing where and in what condition each is found, and by what processes it is prepared for use or for market. Also lectures on the manufacture of tools.

Two hours a week throughout the year.

I think it desirable to furnish training for a second year's course to those boys in the High School who have taken the first year's course, and I advise that a shop be provided in which they can receive in-

struction in the use of the wood-lathe, in forging, and in molding of soft metals. For this shop a small engine will be necessary, which will be the heaviest expense (say, \$1,200, which will include shafting, pulleys and belting). Lathes, forges, molding-benches, and the necessary appliances and tools for these, can be secured for \$600. This shop will accommodate a class of twenty boys who can be taught by one teacher. Thus 300 boys may receive training one hour a week or half that number two hours a week. (Probably not more than 150 boys in the High School will elect to take this course).

The work in this shop will include:

LATHE WORKING.

The use of all the hand wood-turning tools, embracing plain and fancy turning in hard and soft wood, inside and outside.

The use of chucks and face-plates.

Pattern turning.

MOLDING.

Bench molding in sand and casting soft metal, embracing the use of slickers, trowels, riddle, etc., using patterns made by the pupil himself.

FORGING.

The forging of small articles of soft iron and steel, and steel tools, with instruction in the simpler methods of manufacture of iron and steel.

Practice in welding iron.

Practice in hardening and tempering steel.

Lectures on metallurgy.

Two hours a week throughout the year.

I recommend the establishing of two cooking schools—one at the High School, and one in the third division where we may test the work with eighth and seventh grade girls.

The plants for these schools will cost \$150 apiece or \$300 for the two

Fifteen pupils constitute a class in cooking. Two hours are required for each lesson. In each of these schools, therefore, 225 girls may receive a lesson in cooking each week of the school year, or 450 girls in both schools. The object of the course is to give the pupils instruction in plain cooking and in housekeeping, so far as it is dependent on the kitchen. In addition to recipes for ordinary dishes, and making and cooking the same in the school, notes should be given on the proper selection of materials, the proper way of mixing ingredients, and on the best manner of arranging and preserving provisions. As much of the chemistry of food should be taught as is necessary for intelligent cooking.

We shall then be able to train 1,300 pupils, in round numbers, male and female, in grades ranging from the seventh grade to the last year in the High School, both inclusive.

Some of the classes will be trained in schools connected with or adjacent to those in which they do their other school work. Other classes will go a distance of many blocks to get their lessons, and that during school hours. We shall therefore be able by careful management and close observation to determine the value of this work under varied circumstances and with many grades of pupils.

The plant for these six schools will cost, in round numbers, not less than \$3,340.

The remaining part of the appropriation will be needed in the purchase of materials for use in the various schools.

I recommend further that a teacher be employed to superintend the teaching of sewing in the girls' schools of the fourth division, and that one hour a week be given to this work by the girls of the fourth, fifth, and sixth grades. The instruction heretofore given in sewing has been of a desultory character, serving only to prove its desirability and the practicability of making it more general and systematic. The expense for materials will be small compared with the number of pupils who will be benefited by the work.

I recommend, also, that sewing be taught in the normal training school.

TIME.

It will not be necessary to lengthen the school day to secure time for this work in manual training. Much time, enough for this work, may be saved by drawing less from flats, a work comparatively useless; by learning fewer burdensome details in history and geography, and by relieving the work in arithmetic of the memorizing of long rules, of work involving the use of large numbers beyond the comprehension of children or even grown persons, and by omitting some of the more intricate mazes of numerical puzzlement.

The time required will vary with the grade of school from one hour and a half to three hours a week.

SUPERVISION.

The abolition of written examinations by the Board, for the promotion of pupils, or as a means by which the efficiency of teachers is ascertained, gives to the subject of supervision an importance which it has not before possessed. The schools must be made to subserve the best educational interests of the children attending them. Authority is given to the Board of Trustees to adopt such means as will, in their judgment, secure this end.

In your wisdom you have discontinued examinations; you have abolished one of the means in general use by which the knowledge of pupils in restricted lines of work may be ascertained. Thus an agency for holding both teacher and pupil to accountability within narrow scholastic limits is removed. To determine whether or not this will result in loss to the pupil should command the constant attention and the wise and candid judgment of those to whom the people intrust the welfare of their children.

I interpret this action of the Board to mean that it is more important—

To know that the teachers understand the purpose and scope of the different kinds of work prescribed for the grades in which they teach, respectively, than the average percentages of their schools obtained by answering five or ten questions asked by a committee or a superintendent;

To know that the teachers understand and use those processes by which all the pupils may best be developed morally, mentally and physically, than that certain numbers of their pupils have reached a given average in the prescribed branches of scholastic work;

To know that every child in the schools is trained to work most advantageously and naturally, than how he stands in relation to other members of his class;

- To know that every child is trained to do better work, more profitable work, each day, than that in the estimation of some one who has rated his answers he has made $\frac{1}{2}$ per cent. higher standing than some other member of the class;
 - To know that the children are learning where to get information, how to get it, and what to do with it, than the names or number of those who remember at a given moment the greatest amount of what they have learned;
 - To know that scholarly desires and habits are cultivated in the school and scholarly processes are adopted by the children, than that they stand high in some or all of the studies pursued.
- I interpret this action to mean that it is important—
- To know that no child is injured by undue stimulus, that no child, however dull, is discouraged by unwise criticism or bad methods of teaching;
 - To know that children are learning to do good work, are improving day by day for the sake of the work and the improvement it brings, and not for the sake of getting higher marks than their associates;
 - To know that the pupil's motive in studying is to learn and grow, rather than to stand high in examination, or even to be promoted; and, finally,
 - To know that by the processes of the schools, both teacher and pupil do not, in their nervous anxiety over percentages and averages, lose sight of that better, that chief part of their work—the development of integrity and moral character.

To superintend schools efficiently, a broad understanding of the purposes of the school in society is necessary. The supervising heads must know the kinds of work by which these purposes may best be secured.

Written examinations relieve the superintendent and his assistants of much responsibility, though adding greatly to the drudgery of their work. A large part of this responsibility is thrown upon the teacher, who, by the processes of teaching thereby made necessary, shifts a portion of the responsibility upon the pupil. By the abolition of written examinations the teacher is left free to exercise an intelligent and useful individuality in the choice of matter and methods, and by the teaching thereby made possible the pupil is freed from a nervous, feverish responsibility; spontaneity is encouraged and developed, and the natural growth of power and increase of knowledge ensue, with the least possible nervous expenditure.

The supervision of the teaching in the High School is done by the principal, who devotes most of his time to that work. The same is true, also, of the Normal Training School, whose principal, however, gives much assistance by overseeing and directing the work of young teachers engaged in the primary grades.

The directors of music and drawing supervise the teaching done in those branches throughout the schools.

There are six supervising principals, who are practically assistant superintendents, in charge of the schools of the first six divisions, respectively.

The supervision of the schools below the High School during the year may be explained under the following heads:

First. Consultations and conclusions of supervisors respecting the purposes and limitations of the various kinds of school work and of processes of teaching; respecting purposes and means of discipline, and respecting all other interests of the schools.

The remaining part of the appropriation will be needed in the purchase of materials for use in the various schools.

I recommend further that a teacher be employed to superintend the teaching of sewing in the girls' schools of the fourth division, and that one hour a week be given to this work by the girls of the fourth, fifth, and sixth grades. The instruction heretofore given in sewing has been of a desultory character, serving only to prove its desirability and the practicability of making it more general and systematic. The expense for materials will be small compared with the number of pupils who will be benefited by the work.

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The directors of music and drawing supervise the teaching done in those branches throughout the schools.

There are six supervising principals, who are practically assistant superintendents, in charge of the schools of the first six divisions, respectively.

The supervision of the schools below the High School during the year may be explained under the following heads:

First. Consultations and conclusions of supervisors respecting the purposes and limitations of the various kinds of school work and of processes of teaching; respecting purposes and means of discipline, and respecting all other interests of the schools.

Second. Examination of pupils ; observation of teaching ; consultation with teachers ; comparison of methods and of results.

Third. Reports of impressions and results ; consultation and conclusions respecting future action.

Fourth. Teachers' meetings by grades or by divisions.

The supervising principals met in consultation with the superintendent on an average more than once each week of the school year. These meetings were held at night that as much school time as possible might be given to observation and to assisting in the schools.

The work of a single grade was usually the topic for consideration at each of these meetings, though not infrequently the discussion was confined to the work of one grade in a single branch of study. With remarkable unanimity the supervisors went forth from each meeting to work for the accomplishment of results we believed to be desirable.

That the work of the schools might be unified, that the teachers might work in harmony with the supervising principals, teachers' meetings by grades were held. At these meetings a free expression of opinion was encouraged, the work decided upon was explained, its purpose and limitations defined, and processes of teaching discussed.

The intelligence and faithfulness with which the teachers co-operated with the supervising principals to do the work of the schools, suggested to them at these meetings, was a source of constant gratification.

The teachers of every grade met several times and of some of the grades many times during the year. All meetings were under the direction of the superintendent.

Besides these, many grade meetings were held in the different divisions for the exemplification of work by the practice teachers of the Normal School or by others whose teaching was believed to be worthy of study. It was impracticable for the teachers of many of the county schools to attend all of these grade meetings, though most of the teachers in the suburban schools were present.

Other meetings for the county teachers were held on Saturdays. These were either grade or general meetings as thought desirable by the condition of the work in these schools.

The work of supervision was definite in its purposes, systematic in its plan, and uniform in its effort to strengthen first the weakest part of the school work.

In the first division there were 81 schools ; in the second division, 95 schools ; in the third division, 83 schools ; in the fourth division, 51 schools ; in the fifth division, 35 schools ; in the sixth division, 55 schools.

It will be seen by reference to the statistics given above that there is great disparity in the number of schools in charge of the different supervising principals. One had 95 schools in charge while another had but 35 schools.

I recommend the employment of another supervising principal, to be assigned to such schools as the Board may decide upon.

There are in the first, second, and third divisions 259 schools. The time of four persons could be profitably employed in the proper supervision of these schools.

If the Board decide that it is not wise or practicable to add to the number of supervisors, I suggest the desirability of equalizing the work of the six now employed.

The labors of the year were lightened and made agreeable by many co-operating agencies. The keen interest taken by the honorable Commissioners in everything relating to the scholastic condition as well as

to the material welfare of the schools was gratifying and helpful to me. The numerous expressions of confidence by the members of the Board of Trustees encouraged me, while to the Board in its official capacity I am indebted for many courtesies.

The principals and teachers co-operated faithfully to carry out every suggestion offered and to make effective every effort to secure good results in the work of the schools.

I desire to express my high appreciation of the consideration you have shown me in all our official relations, and my thanks for your uniform kindness.

With high esteem,

W. B. POWELL,
Superintendent of Schools.

WASHINGTON, D. C.,
October 1, 1887.

STATISTICS.

TABLE I.—*Showing the whole enrollment of white pupils within the city, by grades, for the school year ending June 30, 1887.*

Grade.	Whole enrollment.	Per cent.
Normal School	40	.20
High School	827	4.17
Eighth grade	1,345	6.77
Seventh grade	1,635	8.23
Sixth grade	2,155	10.84
Fifth grade	2,825	14.21
Fourth grade	2,856	14.38
Third grade	2,678	13.47
Second grade	2,493	12.54
First grade	3,019	15.19
Total	19,873	100.00
SUMMARY.		
Normal and High Schools	867	4.37
Grammar schools	7,960	40.05
Primary schools	11,046	55.58
Total	19,873	100.00

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TABLE II.—Showing the whole enrollment of white pupils in the first six divisions (city and county), by grades, for the school year ending June 30, 1887.

Grade.	Whole enrollment.	Per cent.
Normal School	40	.19
High School	827	3.87
Eighth grade	1,399	6.55
Seventh grade	1,689	7.90
Sixth grade	2,294	10.73
Fifth grade	3,013	14.10
Fourth grade	3,097	14.49
Third grade	2,904	13.59
Second grade	2,729	12.77
First grade	3,378	15.81
Total	21,370	100.00
SUMMARY.		
Normal and High Schools	867	4.06
Grammar schools	8,395	39.28
Primary schools	12,108	56.66
Total	21,370	100.00

TABLE III.—Showing the whole enrollment of pupils (white and colored) in the first six divisions (city and county), by grades, for the school year ending June 30, 1887.

Grade.	Whole enrollment.	Per cent.
Normal School	40	.17
High School	827	3.58
Eighth grade	1,415	6.13
Seventh grade	1,720	7.46
Sixth grade	2,378	10.31
Fifth grade	3,153	13.67
Fourth grade	3,318	14.38
Third grade	3,130	13.57
Second grade	3,076	13.33
First grade	4,016	17.40
Total	23,073	100.00
SUMMARY.		
Normal and High Schools	867	3.75
Grammar schools	8,666	37.57
Primary schools	13,540	58.68
Total	23,073	100.00

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TABLE IV.—Showing attendance and other facts.

SEPTEMBER.

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.		High School.	Normal School.	Special teachers.	Total.
						White.	Colored.				
Whole number of pupils enrolled	3,704	4,732	4,204	2,416	1,597	1,260	1,291	801	40	.....	20,045
Average number of pupils enrolled	3,416	4,516	3,910	2,314	1,486	1,171	1,256	767	39	.....	18,875
Average number of pupils in daily attendance	3,329	4,391	3,820	2,239	1,443	1,106	1,213	755	39	.....	18,335
Percentage of attendance	97.4	97.2	97.7	96.6	97.1	94.3	96.6	.....	.....	.....	.....
Schools	*79	*95	83	51	35	29	26	.....	.....	.....	.....
Teachers employed (unassigned, 2)	†77	†93	†84	†52	†36	†30	26	27	5	4	436
Cases of tardiness	132	118	27	60	76	105	29	9	.....	.....	556
Cases of corporal punishment .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pupils dismissed .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	46.9	49.8	50.7	47.4	45.6	43.4	49.6	29.6	.....	.....	.....
Average enrollment	43.2	47.5	47.1	45.4	42.5	40.4	48.3	28.4	.....	.....	.....

OCTOBER.

Whole number of pupils enrolled	3,696	4,947	4,236	2,575	1,676	1,284	1,485	801	40	.....	20,740
Average number of pupils enrolled	3,796	4,785	4,093	2,415	1,620	1,221	1,399	791	40	.....	20,160
Average number of pupils in daily attendance	3,616	4,568	3,920	2,278	1,541	1,097	1,314	773	40	.....	19,147
Percentage of attendance	95.2	95.4	95.7	94.3	95.0	89.9	93.9	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	26	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	26	29	5	4	437
Cases of tardiness	499	368	163	387	218	399	128	79	4	.....	2,245
Cases of corporal punishment	4	2	.....	.....	2	2	11	.....	.....	.....	21
Pupils dismissed .....	.....	.....	1	.....	.....	2	.....	.....	.....	.....	3
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	45.6	52.1	51.0	50.5	47.9	45.9	57.1	27.6	.....	.....	.....
Average enrollment	46.9	50.4	49.3	47.4	26.3	43.6	53.8	27.2	.....	.....	.....

NOVEMBER.

Whole number of pupils enrolled	3,899	4,870	4,152	2,524	1,629	1,221	1,471	809	40	.....	20,615
Average number of pupils enrolled	3,814	4,797	4,082	2,421	1,612	1,187	1,397	807	40	.....	20,157
Average number of pupils in daily attendance	3,588	4,557	3,866	2,273	1,521	1,049	1,302	787	39	.....	18,982
Percentage of attendance	94.2	94.9	94.7	93.9	94.2	88.4	93.1	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	26	.....	.....	.....	.....
Teacher employed	†79	†93	†84	†52	†36	†29	26	29	5	4	437
Cases of tardiness	723	495	163	449	238	371	140	76	1	.....	2,656
Cases of corporal punishment .....	.....	1	.....	.....	2	.....	7	.....	.....	.....	10
Pupils dismissed .....	.....	3	.....	.....	1	2	1	.....	.....	.....	7
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	48.1	51.3	50.0	49.5	46.5	43.6	56.6	27.9	.....	.....	.....
Average enrollment	47.1	50.5	49.2	47.5	46.1	42.4	53.7	27.8	.....	.....	.....

* Including three practice schools.

† Including one supervising principal.

TABLE IV.—Showing attendance and other facts—Continued.

DECEMBER.

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.		High school.	Normal school.	Special teachers.	Total.
						White.	Colored.				
Whole number of pupils enrolled	3,882	4,851	4,145	2,433	1,634	1,211	1,407	807	40	.....	20,410
Average number of pupils enrolled	3,719	4,670	3,975	2,329	1,566	1,083	1,229	805	40	.....	19,416
Average number of pupils in daily attendance	3,351	4,275	3,623	2,106	1,398	861	1,045	763	38	.....	17,460
Percentage of attendance	90.0	91.4	91.2	90.4	88.8	79.4	85.1	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	26	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	26	29	5	4	437
Cases of tardiness	749	584	238	410	269	409	113	195	5	.....	3,002
Cases of corporal punishment	2	.....	.....	1	.....	.....	3	.....	.....	.....	6
Pupils dismissed .....	.....	.....	1	.....	.....	1	1	.....	.....	.....	3
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	47.9	51.1	49.9	47.7	46.7	43.2	54.1	27.8	.....	.....	.....
Average enrollment	45.9	49.0	47.9	45.7	44.7	38.7	47.3	27.7	.....	.....	.....

JANUARY.

Whole number of pupils enrolled	3,813	4,721	4,003	2,333	1,564	1,072	1,304	805	40	.....	19,655
Average number of pupils enrolled	3,761	4,710	3,996	2,352	1,566	1,094	1,270	798	40	.....	19,587
Average number of pupils in daily attendance	3,433	4,362	3,735	2,185	1,443	965	1,170	747	30	.....	18,070
Percentage of attendance	91.3	92.6	93.4	92.6	92.1	88.1	92.1	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	862	611	267	567	355	541	175	140	2	.....	3,520
Cases of corporal punishment .....	.....	1	1	.....	1	1	4	.....	.....	.....	8
Pupils dismissed .....	.....	2	1	.....	1	1	1	.....	.....	.....	6
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	47.1	49.7	48.2	45.7	44.9	38.3	48.3	27.7	.....	.....	.....
Average enrollment	46.4	49.6	48.1	46.1	44.9	39.1	47.0	27.5	.....	.....	.....

FEBRUARY.

Whole number of pupils enrolled	3,834	4,797	4,074	2,415	1,614	1,150	1,313	799	40	.....	20,036
Average number of pupils enrolled	3,750	4,694	3,978	2,393	1,568	1,115	1,283	789	40	.....	19,610
Average number of pupils in daily attendance	3,472	4,394	3,757	2,245	1,458	990	1,185	750	38	.....	18,289
Percentage of attendance	92.3	93.6	94.5	93.8	93.0	88.7	92.3	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	688	430	150	360	216	372	114	74	6	.....	2,410
Cases of corporal punishment .....	.....	1	.....	.....	1	.....	7	.....	.....	.....	9
Pupils dismissed .....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	2
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	47.3	50.5	49.1	47.3	46.1	41.1	48.6	27.5	.....	.....	.....
Average enrollment	46.3	49.4	47.9	46.9	44.8	39.8	47.5	27.2	.....	.....	.....

* Including three practice schools.

† Including one supervising principal.

TABLE IV.—*Showing attendance and other facts*—Continued.

MARCH.

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.		High School.	Normal School.	Special teachers.	Total.
						White.	Colored.				
Whole number of pupils enrolled	3,824	4,742	4,030	2,415	1,589	1,123	1,331	790	40	.....	19,884
Average number of pupils enrolled	3,734	4,602	3,929	2,334	1,561	1,094	1,294	765	40	.....	19,353
Average number of pupils in daily attendance	3,428	4,274	3,688	2,153	1,441	952	1,187	731	33	.....	17,887
Percentage of attendance	91.9	92.9	93.8	92.3	92.3	87.0	91.7	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	886	495	222	353	182	324	142	110	6	.....	2,720
Cases of corporal punishment .....	.....	.....	.....	.....	3	1	6	.....	.....	.....	10
Pupils dismissed	1	.....	.....	.....	.....	2	1	.....	.....	.....	4
Pupils to a school, based on—											
Whole enrollment	47.2	49.9	48.6	47.4	45.4	40.1	49.3	27.2	.....	.....	.....
Average enrollment	46.1	48.4	47.3	45.8	44.6	39.1	47.9	26.4	.....	.....	.....

APRIL.

Whole number of pupils enrolled	3,721	4,570	3,936	2,304	1,553	1,128	1,304	774	40	.....	19,330
Average number of pupils enrolled	3,649	4,507	3,870	2,274	1,530	1,127	1,288	760	40	.....	19,045
Average number of pupils in daily attendance	3,340	4,154	3,596	2,080	1,407	976	1,189	728	38	.....	17,508
Percentage of attendance	91.2	92.1	93.4	91.4	91.9	86.5	92.2	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	592	432	148	310	157	250	118	60	8	.....	2,075
Cases of corporal punishment .....	.....	3	.....	.....	1	.....	4	.....	.....	.....	8
Pupils dismissed	1	.....	.....	.....	2	.....	1	.....	.....	.....	4
Pupils to a school, based on—											
Whole enrollment	45.9	48.1	47.4	45.2	44.4	40.3	48.3	26.6	.....	.....	.....
Average enrollment	45.0	47.4	46.6	44.6	43.7	40.3	47.7	26.2	.....	.....	.....

MAY.

Whole number of pupils enrolled	3,623	4,429	3,848	2,260	1,508	1,128	1,303	756	40	.....	18,895
Average number of pupils enrolled	3,465	4,374	3,747	2,215	1,466	1,096	1,237	737	40	.....	18,377
Average number of pupils in daily attendance	3,134	4,021	3,459	2,019	1,324	929	1,118	698	38	.....	16,740
Percentage of attendance	90.4	91.9	92.4	91.1	90.4	84.7	90.6	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	686	434	153	340	157	341	121	108	2	.....	2,342
Cases of corporal punishment	1	1	.....	.....	2	.....	.....	.....	.....	.....	4
Pupils dismissed .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pupils to a school, based on—											
Whole enrollment	44.7	46.6	46.4	44.3	43.1	40.3	48.3	26.0	.....	.....	.....
Average enrollment	42.8	46.0	45.1	43.4	41.9	39.1	45.8	25.4	.....	.....	.....

*Including three practice schools.

† Including one supervising principal.

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TABLE IV.—Showing attendance and other facts—Continued.

JUNE.

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.		High School.	Normal School.	Special teachers.	Total.
						White.	Colored.				
Whole number of pupils enrolled	3,354	4,285	3,665	2,195	1,441	1,082	1,223	733	40	.....	18,018
Average number of pupils enrolled	3,232	4,176	3,612	2,121	1,390	1,044	1,188	729	40	.....	17,532
Average number of pupils in daily attendance	2,989	3,920	3,420	1,981	1,290	905	1,072	697	39	.....	16,313
Percentage of attendance	92.5	93.8	94.7	93.2	92.8	86.6	91.3	.....	.....	.....	.....
Schools	*81	*95	83	51	35	28	27	.....	.....	.....	.....
Teachers employed	†79	†93	†84	†52	†36	†29	27	29	5	4	438
Cases of tardiness	413	316	90	167	163	214	119	89	2	.....	1,573
Cases of corporal punishment	1	3	1	.....	.....	.....	.....	.....	.....	.....	5
Pupils dismissed	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	41.4	45.1	44.2	43.0	41.2	38.6	45.3	25.2	.....	.....	.....
Average enrollment	39.9	43.9	43.5	41.6	39.7	37.3	44.0	25.1	.....	.....	.....

* Including three practice schools.

† Including one supervising principal.

TABLE V.—Attendance and other facts, by months, for the year.

	September.	October	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Whole number of pupils enrolled	20,045	20,740	20,615	20,410	19,655	20,036	19,884	19,330	18,895	18,018	.....
Average number of pupils enrolled	18,875	20,160	20,157	19,416	19,587	19,610	19,353	19,045	18,377	17,532	.....
Average number of pupils in daily attendance	18,335	19,147	18,982	17,460	18,070	18,289	17,887	17,508	16,740	16,313	.....
Percentage of attendance	97.2	95.1	94.7	91.1	92.5	93.6	92.9	92.3	90.1	93.8	.....
Teachers employed	436	437	437	437	438	438	438	438	438	438	.....
Cases of tardiness	556	2,245	2,656	3,002	3,520	2,410	2,720	2,075	2,342	1,573	23,099
Cases of corporal punishment	.....	21	10	6	8	9	10	8	4	5	81
Pupils dismissed	.....	3	7	3	6	2	4	4	.....	1	30

TABLE VI.—Attendance and other facts, by divisions.

	First division.	Second division.	Third division.	Fourth division.	Fifth division.	Sixth division.		High School.	Normal School.	Special teachers.	Total.
						White.	Colored.				
Whole number of pupils enrolled	4,379	5,395	4,656	2,714	1,859	1,497	1,703	827	40	.....	23,073
Average number of pupils enrolled	3,675	4,690	3,911	2,311	1,540	1,121	1,305	778	40	.....	19,285
Average number of pupils in daily attendance	3,291	4,394	3,656	2,125	1,435	973	1,198	756	37	.....	17,910
Cases of tardiness	6,250	4,188	1,621	3,433	2,031	3,326	1,199	940	36	.....	23,099
Cases of corporal punishment	.....	12	2	1	12	4	42	.....	.....	.....	81
Pupils dismissed	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
Schools	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Teachers employed	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pupils to a school, based on—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole enrollment	54.1	56.5	56.1	57.2	53.1	53.5	63.1	28.4	.....	4	438
Average enrollment	45.1	48.4	47.2	45.2	44.0	40.0	48.3	26.8	.....	.....	.....

* Including three practice schools.

† Including one supervising principal.

TABLE VII.—*Fluctuations in the growth of the schools since the year 1880.*

[First six divisions.]

School year ending June 30—	Whole enrollment.		Average enrollment.		Average daily attendance.		Number of teachers.	Increase.
	Number.	Per cent. of increase.	Number.	Per cent. of increase.	Number.	Per cent. of increase.		
1880.....	18,378	.....	15,027	.....	14,225	.....	306	.....
1881.....	19,153	4.2	15,494	3.1	14,368	1.1	327	21
1882.....	19,031	*.63	16,063	3.6	14,933	4.1	342	15
1883.....	19,836	4.2	16,524	2.8	15,451	3.4	358	16
1884.....	21,221	6.9	16,642	.71	15,423	*.18	371	13
1885.....	21,267	.21	17,468	4.9	16,041	4.0	393	22
1886.....	22,198	4.3	18,720	7.1	17,273	7.6	421	28
1887.....	23,073	3.9	19,285	3.0	17,910	3.6	438	17

* Decrease.

WASHINGTON HIGH SCHOOL.

TABLE VIII.—*Whole number of pupils enrolled, increase and percentage of increase for each year since the organization of the advanced grammar schools.*

Year.	Boys.			Girls.			Total.		
	Num- ber en- rolled.	In- crease.	Per- centage of in- crease.	Num- ber en- rolled.	In- crease.	Per- centage of in- crease.	Num- ber en- rolled.	In- crease.	Per- centage of in- crease.
1876-'77.....	.....	.....	.....	54	.....	.....	54	.....	.....
1877-'78.....	54	.....	.....	76	22	40.7	130	76	147.4
1878-'79.....	67	13	24.0	84	8	10.5	151	21	16.1
1879-'80.....	81	14	20.9	98	14	16.6	179	28	18.5
1880-'81.....	104	23	28.4	130	32	32.7	234	55	30.7
1881-'82.....	121	17	16.3	147	17	13.0	268	34	14.5
1882-'83.....	171	50	41.3	241	94	63.9	412	144	53.7
1883-'84.....	209	38	22.2	315	74	30.9	524	112	27.1
1884-'85.....	223	14	6.2	433	128	31.8	656	132	20.1
1885-'86.....	262	39	15.2	483	50	10.3	745	89	11.9
1886-'87.....	301	39	11.0	526	43	8.9	827	82	11.0

GENERAL STATISTICS OF SCHOOLS FOR THE DISTRICT OF COLUMBIA
FOR THE YEAR ENDING JUNE 30, 1887.

In the following tables, the facts presented by Superintendent Cook and myself are summarized to give a general view of the several kinds of schools, showing attendance, number of teachers, cost and other items of interest.

Washington Normal School.

Number of teachers trained.....	40
Average attendance.....	37
Number of teachers employed.....	5
Average salary.....	\$934.16

Miner Normal School.

Number of teachers trained.....	20
Average attendance.....	19
(This school was supported by the Miner Fund, but must be provided for by the District the coming year.)	

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Washington High School.

Number of pupils enrolled	827
Average enrollment	778
Average attendance	756
Per cent. of attendance	96.4
Average number of tardinesses per month	94
Number of pupils dismissed	0
Number of teachers employed	29
Average salary paid	\$876.25
Cost of tuition per pupil (estimated on the average enrollment)	\$32.66

Colored High School.

Number of pupils enrolled	276
Average enrollment	233
Average attendance	218
Per cent. of attendance	93.3
Average number of tardinesses per month	4.8
Number of pupils dismissed	0
Number of teachers employed	8
Average salary paid	\$1,125.00
Cost of tuition per pupil (estimated on the average enrollment)	\$38.62

Grammar and Primary Schools.

	White.	Colored.	Total.
Number of pupils enrolled	20,503	11,772	32,275
Average enrollment	17,162	9,520	26,682
Average attendance	15,919	8,936	24,855
Per cent. of attendance	92.7	93.8	93.1
Average number of tardinesses per month	2,092	449.6	.....
Number of pupils dismissed	23	11	34
Number of cases of corporal punishment	39	152	191
Number of teachers employed	366	196	562
Average salary paid	\$652.05	\$573.44	.....
Average number of pupils to a teacher (estimated on average enrollment)	46.8	48.5	.....
Cost of tuition per pupil (estimated on average enrollment)	\$13.90	\$11.80	.....
Number of pupils enrolled in all schools (excluding Miner Normal School)	21,370	12,048	33,418

SPECIAL TEACHERS.

Drawing	2	1	3
Music	2	2	4
Average salary paid:			
Drawing	\$712.91	\$1,081.67	.....
Music	\$1,573.33	\$786.67	.....
Average cost per pupil for special tuition (estimated on average enrollment)	* \$0.24	† \$0.31	.....

* First six divisions.

† Seventh and eighth divisions.

SUPERVISION.

The cost of supervision was:

One superintendent (white)	\$2,700.00
One superintendent (colored)	2,250.00
Six supervising principals (white), each \$1,966.67	11,800.00
Two supervising principals (colored,) each \$1,966.67	3,933.34
One clerk	1,200.00
One clerk (colored)	800.00
One messenger	300.00
One messenger (colored)	200.00
Total cost of supervision	23,183.34
Average cost of supervision per pupil (estimated on average enrollment) ..	0.84

Summary.

Total cost of instruction, including supervision	\$420,939.48
Whole number of pupils enrolled	33,418
Average enrollment	27,733
Average daily attendance	25,866
Average cost of instruction, estimated on:	
1. Whole enrollment	\$12.59
2. Average enrollment	\$15.18
3. Average daily attendance	\$16.27

Contingent expenses.

Total amount expended	\$21,833.76
Average amount per pupil (estimated on average enrollment)	.78

Fuel.

Total amount expended	\$16,794.65
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Janitors.

Total amount expended	\$30,166.04
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Average cost per pupil (including High and Normal Schools) for all ex-		
penses except repairs and permanent improvements:		
1. On whole enrollment		15.23
2. On average enrollment		18.36
3. On average daily attendance		19.68

Accommodations.

	White.	Colored.	Total.
Number of buildings owned	*40	21	61
Number of buildings rented	13	5	18
Number of school rooms owned	*283	132	415
Number of school rooms rented	24	18	42

*Excluding white High School.

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List of school-houses owned with their respective locations, and with the number of rooms in each.

Division.	Name of building.	Location of building.	Number of rooms.
1	Franklin	Thirteenth and K streets, northwest.....	16
1	Dennison	S street, between Thirteenth and Fourteenth streets, northwest..	12
1	Force	Massachusetts avenue, between Seventeenth and Eighteenth streets, northwest.....	12
1	Analostan	G street, between Twenty-first and Twenty-second streets, northwest.....	12
1	Thomson	Twelfth street, between K and L streets, northwest.....	6
1	.....	Fourteenth and Q streets, northwest.....	2
2	Gales	First and G streets, northwest.....	12
2	Henry	P street, between Sixth and Seventh streets, northwest.....	12
2	Webster.....	Tenth and H streets, northwest.....	12
2	Seaton	I street, between Second and Third streets, northwest.....	11
2	Twining.....	Third street, between N and O streets, northwest.....	10
2	Abbot	Sixth street and New York avenue, northwest.....	9
2	Morse	Fifth and R streets, northwest.....	8
3	Wallach	Pennsylvania avenue, between Seventh and Eighth streets, southeast.....	12
3	Peabody.....	Fifth and C streets, northeast.....	12
3	Brent	Third and D streets, southeast.....	8
3	Blair	I street, between Sixth and Seventh streets, northeast.....	8
3	Cranch	Twelfth and G streets, southeast.....	6
3	McCormick.....	Third street, between M and N streets, southeast.....	4
3	.....	Seventh and G streets, southeast.....	2
3	Lenox	Ninth street, between K street and Virginia avenue, southeast.....	2
4	Jefferson	Sixth and D streets, southwest.....	24
4	Amidon	Sixth and F streets (southwest.....	9
4	Potomac	Twelfth street, between Maryland avenue and E street, southwest.....	4
4	Greenleaf	Four-and-a-half street, between M and N streets, southwest.....	4
5	Addison	P street, between Thirty-second and Thirty-third streets, northwest.....	10
5	Curtis	O street, between Thirty-second and Thirty-third streets, northwest.....	8
5	.....	Twenty-eighth street, between M street and Olive avenue, northwest.....	4
5	.....	Thirty-second and S streets, northwest.....	4
5	Threlkeld	Thirty-sixth street and Prospect avenue, northwest.....	4
6	Mott	Sixth street extended and Trumbull street.....	6
6	Anacostia	Washington street, between Fillmore and Pierce streets, Anacostia, D. C.....	6
6	Hillsdale	Nichols avenue, Hillsdale, D. C.....	6
6	Mount Pleasant	County.....	4
6	Tennallytown	do.....	2
6	Grant Road	do.....	2
6	Brightwood	do.....	2
6	Soldiers' Home	do.....	2
6	Hamilton	do.....	2
6	Benning	do.....	2
6	Benning's Road	do.....	2
6	Gresham	do.....	2
6	Hamilton Road	do.....	2
6	Conduit Road	do.....	2
6	Chain Bridge Road	do.....	1
6	Brightwood	do.....	1
6	Columbia Road	do.....	1
6	Fort Slocum	do.....	1
6	Bunker Hill Road	do.....	1
6	Queen's Chapel Road	do.....	1
7	Stevens	Twenty-first street, between K and L streets, northwest.....	19
7	Garnet	Tenth and U streets, northwest.....	12
7	Sumner	Seventeenth and M streets, northwest.....	10
7	Wormley	Prospect avenue, between Thirty-third and Thirty-fourth streets, northwest.....	8
8	Chamberlain	East street, Georgetown.....	2
8	Lincoln	Second and C streets, southeast.....	12
8	Randall	First and I streets, southwest.....	12
8	John F. Cook	O street, between Fourth and Fifth streets, northwest.....	11
8	Banneker.....	Third street, between K and L streets, northwest.....	8
8	Anthony Bowen	Ninth and E streets, southwest.....	8
8	Lovejoy	Twelfth and D streets, northeast.....	6

TABLE IX.—*Whole enrollment of colored pupils in the District of Columbia, by grades, for the school year ending June 30, 1887.*

Grade.	Whole enrollment.	Per cent
Normal School.....		
High School.....	276	2.29
Eighth grade.....	220	1.83
Seventh grade.....	350	2.91
Sixth grade.....	546	4.53
Fifth grade.....	868	7.21
Fourth grade.....	1,267	10.50
Third grade.....	1,508	12.52
Second grade.....	2,293	19.03
First grade.....	4,720	39.18
Total.....	12,048	100.00
SUMMARY.		
Normal and High Schools.....	276	2.29
Grammar schools.....	1,984	16.48
Primary schools.....	9,788	81.23
Total.....	12,048	100.00

TABLE X.—*Whole enrollment of pupils, white and colored, in the District of Columbia, by grades, for the school year ending June 30, 1887.*

Grade.	Whole enrollment.	Per cent.
Normal School.....	40	.12
High Schools.....	1,103	3.30
Eighth grade.....	1,619	4.85
Seventh grade.....	2,039	6.10
Sixth grade.....	2,840	8.50
Fifth grade.....	3,881	11.61
Fourth grade.....	4,364	13.06
Third grade.....	4,412	13.20
Second grade.....	5,022	15.03
First grade.....	8,098	24.23
Total.....	33,418	100.00
SUMMARY.		
Normal and High Schools.....	1,143	3.42
Grammar schools.....	10,379	31.06
Primary schools.....	21,896	65.52
Total.....	33,418	100.00

TABLE XI.—Growth of the schools since the year 1880.

School year ending June 30—	Average number of pupils enrolled.					
	First six divisions.		Seventh and eighth divisions.		Total.	
	Number.	Per cent. of increase.	Number.	Per cent. of increase.	Number.	Per cent. of increase.
1880	15,027	.....	6,573	.....	21,600	.....
1881	15,494	3.1	6,567	.....	22,061	2.13
1882	16,063	3.6	6,763	2.98	22,826	3.46
1883	16,524	2.8	7,070	4.53	23,594	3.36
1884	16,642	.71	7,225	2.19	23,867	1.11
1885	17,468	4.9	7,689	6.42	25,157	5.40
1886	18,720	7.1	8,191	6.52	26,911	6.97
1887	19,285	3.0	8,448	3.13	27,733	3.05

TABLE XII.—Average enrollment of pupils in the white and colored schools and the number of teachers employed for each year since the year 1880.

School year ending June 30—	Average enrollment.						Teachers.	
	First six divisions		Seventh and eighth divisions.		Total.		Whole number employed.	Increase.
	No.	Per cent. of increase.	No.	Per cent. of increase.	No.	Per cent. of increase.		
1880	15,027	.....	6,573	.....	21,600	.....	434	.....
1881	15,494	3.1	6,567	.....	22,061	2.13	461	27
1882	16,063	3.6	6,763	2.98	22,826	3.46	485	24
1883	16,524	2.8	7,070	4.53	23,594	3.36	505	20
1884	16,642	.71	7,225	2.19	23,867	1.11	525	20
1885	17,468	4.9	7,689	6.42	25,157	5.40	555	30
1886	18,720	7.1	8,191	6.52	26,911	6.97	595	40
1887	19,285	3.0	8,448	3.13	27,733	3.05	620	25

TABLE XIII.—Average enrollment of pupils, the number of teachers employed, the cost of tuition, and rates of increase for each year since 1880.

School year ending June 30—	Average enrollment.		Teachers.		Cost (excluding rent and permanent improvements).		
	Total.	Per cent. of increase.	Number employed.	Increase.	Per pupil (based on average enrollment).	Aggregate amount.	Per cent. of increase.
1880	21,600	.....	434	...	\$16.95	\$366,199.51	.....
1881	22,061	2.13	461	27	17.28	381,314.19	4.12
1882	22,826	3.46	485	24	17.44	398,254.54	4.44
1883	23,594	3.36	505	20	17.78	419,594.60	5.35
1884	23,867	1.11	525	20	18.22	435,032.79	3.67
1885	25,157	5.40	555	30	18.66	469,550.51	7.93
1886	26,911	6.97	595	40	17.76	477,993.67	1.79
1887	27,733	3.05	620	25	18.36	509,194.01	6.52

TABLE XIV.—*Whole enrollment of pupils in white and colored schools, the number of teachers employed, and the cost of tuition for each year since the year 1880.*

School year ending June 30—	Whole enrollment.						Teachers.		Cost (excluding rent and permanent improvements).		
	First six divisions		Seventh and eighth divisions.		Total.		Whole number employed.	Increase.	Per pupil (based on whole enrollment).	Aggregate amount.	Per cent. of increase.
	No.	Per cent. of increase.	No.	Per cent. of increase.	No.	Per cent. of increase.					
1880	18,378	.....	8,061	.....	26,439	.....	434	.....	\$13.85	\$366,199.51	.....
1881	19,153	4.2	8,146	1.05	27,299	3.2	461	27	13.96	381,314.19	4.12
1882	19,031	*.63	8,289	1.75	27,320	.....	485	24	14.57	398,254.54	4.44
1883	19,836	4.2	8,710	5.07	28,546	4.4	505	20	14.69	419,594.60	5.35
1884	21,221	6.9	9,167	5.24	30,388	6.4	525	20	14.31	435,032.79	3.67
1885	21,267	.21	9,598	4.7	30,865	1.5	555	30	15.21	469,550.51	7.93
1886	22,198	4.3	10,138	5.62	32,336	4.7	595	40	14.78	477,993.67	1.79
1887	23,073	3.9	10,345	2.0	33,418	3.3	620	25	15.23	509,194.01	6.52

* Decrease.

TABLE XV.—*Amount expended for rent and sites and buildings each year from the year 1880 to the year 1887, inclusive.*

School year ending June 30—	Rent.	Sites and buildings.
1880.....	\$28,998.35	\$74,998.24
1881.....	26,506.11	103,416.91
1882.....	26,472.57	253,609.73
1883.....	14,805.33	103,141.47
1884.....	8,742.50	103,563.94
1885.....	7,060.00	118,400.00
1886.....	6,919.66	61,130.04
1887.....	7,354.00	73,085.34

REPORT OF THE NORMAL SCHOOL PRINCIPAL.

WASHINGTON, D. C., June 30, 1887.

DEAR SIR : The scholastic year beginning September, 1886, marked an increase in the number of the pupils and in the scope of the work of the Washington Normal School. The class of 1886 consisted of 30 girls, while that of 1887 contained 36 girls and 4 boys.

The faculty of the school consisted of the principal, 2 teachers of methods, 2 practice teachers, and the teachers of drawing and music.

The normal classes received instruction in the theory of teaching language, reading, number, penmanship, drawing, physics, history, and biology. There were also courses of study in psychology, discipline, and the history of education. Each study taught in the schools was reviewed in a general way in order that the normal pupils might have a comprehensive view of the subject. They were next led to make a careful selection of the subdivisions of the subject and to arrange them logically with reference to their sequence and to discover their relative importance.

The normal pupils in this way ascertained in a measure the relative emphasis to be given to the general subdivisions of a study, while their sense of proportions was better developed. After this general and

topical view of the study was made, its special and definite purpose was considered, together with its general and special place in the education of the child. In other words, the psychological value of the study was investigated.

After such an intelligent review of the study and an examination of its value as a factor in the education of the child, the pupils were better able to understand and arrange, if possible, a course of instruction in that study which should aim to be progressive and at every point be suited to the developing powers of the child.

The class was now ready for a rational inquiry into the best methods of teaching the study; for, knowing the scope and the purpose of the study, as well as the course of instruction in the study, they were able to appreciate the value of a method, not imitatively, because somebody else had used it, but because it was the most direct and philosophic way of developing in the mind of the child a knowledge of the subject in hand.

Hand in hand with the work in theory and methods proceeded the practical application of both.

It was at this point that we perceived the necessity and advantage of the present connection of the normal and practice schools.

Hitherto there had been but two practice schools in connection with the normal department, in charge of two teachers selected for special aptness from the corps of regular teachers in the city. They assumed the whole responsibility of the discipline and instruction of these schools, the normal pupils being permitted to give lessons or series of lessons on various subjects taught in the schools. With but two schools thus arranged and a large normal class, it will be readily seen how limited the practice must be. Accordingly, this year the practice schools were increased to six in number, including the first, second, and third grades, one of each of the three grades being located in the Franklin Building and one of each in the Webster Building. These were taught by the normal pupils, twenty of whom were in each building. Two normal pupils were placed in charge of each class, one of the pupils taking the rank of principal, the other that of assistant. After the course of a month or six weeks the principal left the grade in which she had been teaching and resumed attendance upon all the regular recitations of the class. The assistant, on the other hand, was promoted to the position of principal, while a new assistant was provided.

The principal and assistant assumed for the time the responsibility of the progress of the class, of its discipline, and of the clerical work of the class room. These young people were thus virtually teachers of that grade and were not permitted to go to another grade until they gave evidence that they comprehended fully the work and requirements of that grade in which they were teaching. At the same time in these schools courses of lessons, subjected to close, careful criticism, were given daily by other members of the normal class. Those who had thus taught special courses constituted an experienced number from whom to draw recruits for the places of assistants.

The utmost precaution was taken that the children should not suffer at the hands of inexperienced teachers. The pupil teachers were obliged to prepare the lessons to be taught, and to submit their plans to the method teacher for criticism and consultation. At the appointed time the lessons were given and reports and criticisms of the lessons made by observers, either pupil teachers, the practice teacher, or the teacher of methods.

In order to give unity and stability to the classes in the practice schools, two able teachers were chosen to superintend the teaching in the schools, to give model lessons for the normal pupils, to give necessary drill if the lesson by a normal pupil had been unsuccessful, to conduct frequent examinations of the classes to ascertain whether the instruction had been thorough and progressive, to criticise the normal pupils daily, and by word of admonition or encouragement to help maintain in the normal and practice schools that standard of excellence in scholarship, punctuality, and conduct which constitutes the purpose and aim of the school.

To the practice teachers, also, the normal pupils looked for direction in clerical work and in that which pertains to general school-room economy.

One of the important duties of the method and practice teachers was the giving of sample lessons in the several divisions of the city, using for practice a class in the grade and division. The teachers of this grade and division were present at these lessons, together with the supervising principal of the division, the principal of the Normal School, and the Superintendent of Schools. After the lessons opportunity was offered for questions and for the discussion of methods and of the place and the purpose of the lesson in the regular course of the school work.

In this way teachers who needed help received it, the school work was strengthened, unified, and made even, and the Normal School was properly brought into the most direct practical sympathy, co operation, and unison with the school work at large. To the teachers in the higher grades in the Webster and the Franklin Buildings the Normal School is especially indebted for their cordial co-operation. They most willingly accorded the normal pupils the privilege of teaching in their classes. In this way was secured the opportunity of teaching physics, physiology, history, composition, and design.

Great satisfaction was expressed by the teachers in charge with the results of the teaching by the normal pupils. This work was doubtless a potent means of giving scholastic and technical strength and breadth to the normal pupils, who were thus brought to an understanding of the work and conduct of the higher grades.

Too often pupils of normal schools, because of practice in the lower grades exclusively, assume that it is only for these grades that careful preparation is needed, or they make the equivalent blunder that the same methods and the same discipline apply to lower and higher grade work. Teaching in all the grades is the only preventive for this mistake. It is most important, therefore, that there be regularly attached to the Normal School, schools not only of the primary grades but at least one of the grammar schools. This is desirable not only for the benefit of the normal school but of those teachers who need the stimulus of observing the work in schools similar to their own, which tests and employs the latest results of educational study, research, and experiment.

It is highly important that the library of the Normal School should be greatly enlarged. Books of reference, standard school-books, popular books of science, history, biography, and travel, psychology, and philosophy, together with the leading educational organs of the country, would equip a library or reading-room which would be of inestimable value in fostering a professional spirit among the teachers, and would materially aid them in their laudable desire and ambition to keep abreast with the progress and best thought of the day in their profession. We hope that at no distant date the sympathy and interest of the Commissioners and Board of Trustees will be directed toward this end.

A constant source of encouragement to the school during this year has been the greatly increased number of visitors, teachers, and parents at the sessions of the practice schools. It is a sign of the greater usefulness of the schools; and the frequent assurances of satisfaction that parents have expressed warrant the belief of those in charge of the schools that the work is thorough, practical, interesting and progressive. That which seems to have especially commended itself is the training of the children in that much-neglected branch, the speaking and writing of good English.

The little compositions which the children were led to make gave excellent opportunities for development. These compositions were based on seeing and doing, on that cultivation of perception which has hitherto held, unfortunately, a subordinate place in primary instruction. With seeing and doing as the basis of thought, the oral and written expression of the thought afforded opportunities for careful training in language and form (writing, spelling, punctuation, etc).

The manual training in the primary classes proved a success. The training of the eye and hand in making form and representing it, the oral description of the work, followed by a written account of it, made a unit of physical and mental discipline founded on universally acknowledged psychological principles.

To all those connected with the Normal School it is evident that the school should be valuable in so far as it is useful, not only to present members of the school, but to those who have gone from it, and to all others who feel its need.

For the class that graduated the previous year, weekly meetings were held for the discussion of work and, as far as possible, for the removing of difficulties that presented themselves. Moreover, the principal of the school visited, whenever it was possible, the schools of the first, second, and third grades throughout the District.

Especial thanks are due to the Commissioner of Education and his associates for the assistance they have given to the teachers and pupils of the Normal School. At all times the resources of the Bureau of Education have been freely and courteously placed at our disposal.

To no other normal school of similar equipment are greater advantages offered than to the Washington Normal School with its location in Washington, which of itself ought to be a liberal education, and with the opportunity for liberal culture and increasing advantages afforded in the courses at the Washington High School. With the untiring, skillful, and faithful work of the assistants at the Normal School, with the attendant schools for practice, with the counsel, direction, and inspiration of the Superintendent, enthusiastic and zealous pupils of the Normal School may look forward to nobler results for each succeeding year.

Very respectfully,

EMMA S. ATKINSON,
Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE HIGH SCHOOL PRINCIPAL.

Mr. W. B. POWELL,
Superintendent of Public Schools :

SIR: In compliance with your request, the following brief report of the Washington High School for the year 1886-'87, is respectfully submitted :

ENROLLMENT AND ATTENDANCE.

The year opened with an enrollment of 801 pupils. In November it reached 805, the maximum number registered, and in June, at the close of school, it was 723. The average enrollment was 778, an increase of 90 over the preceding year. The ratio of boys to girls was 3 to 5, and the numbers in the first year of the course were about equal to those in the second and the third years combined. The average percentage of attendance was 95.8, and of punctuality 99.7. When it is remembered that three-fifths of our pupils live at a distance of a mile or more from the school, this record must be regarded with satisfaction.

INSTRUCTION AND DISCIPLINE.

The departmental plan of instruction adopted for all the classes at the organization of the school has been followed with satisfactory results. At least three fourths of all the teachers have been engaged with but one branch of work, and the others have been occupied with subjects that are related in character. The superior advantages of this plan, when teaching only is considered, have been recognized wherever it has been given a trial; but in many high schools (according to their reports) the discipline and character training of pupils have suffered. With us, I am pleased to state, no such evil consequences have been experienced, but the deportment of pupils has been uniformly correct, and the feeling among the teachers, as often expressed in meetings during the year, has been that the discipline of the school generally was all that could be desired. Two pupils only have been suspended, while fully 90 per cent. have been rated each quarter as either "excellent" or "good" in their deportment.

The courses of instruction, designed at the beginning to secure thorough work in a few branches rather than to furnish an epitome of knowledge, have been followed with as much fidelity as is ever desirable. It may be of interest to mention some of the more noteworthy features of the work undertaken and the results achieved in the several departments.

Mathematics.—Number of pupils, 649: First year, algebra, 385; second year, plane geometry, 209; third year, solid geometry and trigonometry, 55, surveying, 38.

In this department special reference should be made to the large amount of practical work done by the classes in surveying. The problems in field work included topographical surveys in Soldiers' Home Park, leveling for profile and contour in the vicinity of the new reservoir, a reconnoissance of Rock Creek, the determination of heights and distances by means of triangulation, and the location of points with the plane table. Each pupil had practice with the instruments in turn and all made plats or drawings representing the work done.

Physics.—Number of pupils, 283: Second year, 262; third year, 21. For the first time in the teaching of this subject, laboratory work was provided for all, pupils actually performing experiments as well as see-

ing them performed by the teacher. Each section had its laboratory hour once a week, when the time was wholly occupied with individual work. This resulted in the pupils constructing many simple pieces of apparatus, which were afterwards used in their experiments. By means of this collateral work they were given an opportunity to put in practice their manual training, and were enabled more clearly to understand the principles and the laws which the apparatus was designed to illustrate.

Additions to the apparatus of the department were made by purchase, as follows: Rowland's Flat Grating, Rowland's Photographic Map of Spectrum, Reynolds's Colored Diagrams (one set astronomical, one set optical), Crooke's New Radiometer, Ravenstein's Astronomical Map.

Chemistry.—Number of pupils, 73: Second year, 50; third year, 23.

All pupils have had laboratory work; in the second year one hour a week, and in the third not less than three. The more advanced pupils have also prepared papers, from time to time, on subjects assigned them for investigation, and these they have read before the classes, illustrating them with experiments of their own devising. The subject of the adulteration of foods and drugs has been studied, and tests have been made. In the study of mineralogy, which was taken up during the latter part of the year by the advanced class, use was made of the privileges granted by the authorities of the National Museum, the collections there being frequently visited and the specimens being freely examined by the pupils.

The following apparatus was added: Marsh apparatus for arsenic, 6 retorts, 1 set of beakers and bell glasses, 6 gross test tubes, 1 set chemical charts, also a number of specimens to the school cabinet of minerals.

Natural science.—Number of pupils, 436: First year, physiology and physical geography, 376; third year, botany, 59.

The instruction given to the first-year class was by means of lectures, on the plan inaugurated in 1882, and since followed with success. For the details of this plan, reference is made to the syllabus of topics used by the pupils as a guide. Twenty-four lectures were given by the teacher in charge and one each by the following-named gentlemen: Prof. H. A. Hazen, of the United States Signal Office, Prof. G. K. Gilbert, of the United States Geological Survey, and Prof. J. W. Chickering, of the National College for Deaf and Dumb.

The work of the classes in botany has aimed at developing the habit of observation. In the laboratory the walls are covered with drawings and mounted specimens prepared by pupils and classified and distinctly labeled, and the cases of drawers are well stocked with every procurable variety of leaf, pod, and berry, to furnish material for object study when excursions to the fields and woods are no longer profitable. Much work has been done by pupils with the microscope in the examination of objects and in drawing and describing the details of plant structure.

Additions to the apparatus of the laboratory have been: 5 compound microscopes from Bausch & Lomb Optical Company, 1 section cutter from Beck & Company, 1 set bell glasses. The collection of the flora of the District has been increased by about 200 specimens.

Business training.—Number of pupils, 125: First year, 72; second year, 53.

In the studies under this head technical book-keeping has been considered of minor importance, and more attention has been given to business arithmetic, commercial law and geography, and the elements of po-

litical economy. The instruction has been eminently practical; the pupils have been made acquainted with the current transactions of trade and commerce through frequent examination and analysis of market and other reports, and made familiar with the forms of mercantile life by actually using them in an imaginary business.

History and political science.—Number of pupils, 612: First year, ancient history, 385; second year, history of England, 173; third year, Freeman's General Sketch, 49, political economy, 23.

The work done in this department during the past three years has been of a character to elicit favorable comment from several eminent authorities. Prof. H. B. Adams, of the Johns Hopkins University, in suggesting the idea of a civil academy at Washington (see Circulars of Information, United States Bureau of Education, No. 1, 1887, page 79), says: "The High School of Washington is already a virtual seminary of history and political science"; and in the September number of *The Academy*, Prof. A. B. Hart, of Harvard College, in an article on the teaching of history, says: "No school in the country has so systematic a course in history and so thorough an organization as the Washington High School."

In the work of the past year the lectures on current events awakened much interest and deserve to be especially mentioned. Such subjects as Irish home rule, the fisheries dispute, and the interstate commerce act were taken up and presented in a way to give pupils a clear understanding of them.

English.—Number of pupils, 659: First year, 335; second year, 173; third year, 101.

A syllabus of English literature and a brief synopsis of American authors were prepared early in the year by the head teacher of this department with the design of furnishing to the classes beginning the study a general survey of the field to be covered. No biographical manual has been used in the school for several years, and, instead of studying about authors, pupils have been led to a direct acquaintance with their works. The school library is the English teacher's laboratory, and pupils have been taught how to work in this laboratory and how to use its various aids and appliances. Lists of books have been made by the teachers, and some of these have been prescribed and others recommended for outside reading, a constant effort being made to cultivate a taste for good and wholesome literature.

The usual attention has been given to English composition.

German.—Number of pupils, 351: First year, 161; second year, 102; third year, 88.

This department continues to be one of the most popular in school. While the natural method is employed in teaching the language, speaking, writing, and original composition are practiced constantly, and a good deal of systematic grammar is worked into the daily lessons. Some erroneously suppose that a language is learned by this method without much effort on the part of the pupil, the teacher doing all the work. As only German is spoken in the class room from the beginning, a pupil does acquire many words and idioms almost unconsciously, but true progress can be made only by persevering study and much practice.

The "Sprachbuch," of which the head teacher in this department is the author, has been used with marked satisfaction.

Latin.—Number of pupils, 302: First year, 142; second year, 103; third year, 57.

However the question of the classics may be settled in the future, it is certain that Latin still remains to a large extent the basis of our secondary education. The advantages of the study need not be discussed, but it is a mistake to regard it as altogether a college preparatory study, for it should be pursued rather for its own sake and as a preparation for life work. Our High School has been fortunate in the past in having excellent teachers for this subject, and the influence of their work has been felt outside their own class room.

The Roman pronunciation, which has on its side the weight of the best scholarship, and which is used in three-fourths of the colleges of the land, was adopted when the study was introduced, and though objections to it are occasionally raised by some parent who studied the language before this method came in vogue, no sufficient reasons have been urged for making a change.

French.—Number of pupils, all in the third year, 82.

(This subject has been dropped from the course, at least temporarily, in order that manual training might be introduced without encroaching too much on the scholastic work of the school.)

Greek.—Number of pupils, 29: Second year, 23; third year, 6.

(This subject also has been discontinued, partly for the same reason as the French, and partly on account of the small demand for the study by the pupils.)

Drawing.—Number of pupils in special classes, 106: First year, 40; second year, 39; third year, 27; in the regular classes, all others.

A competitive examination was held at the opening of the year for appointments to the special class. Over one hundred pupils took the examination, though it was known that the class would be limited to forty, showing how highly this instruction is prized. Constructional drawing and the designing of patterns for wall-papers and fabrics are some of the practical features of the course, and many of its graduates have become draughtsmen, architects, and designers.

In the regular classes all pupils have had practice in making geometrical figures from card-board, and considerable modeling in clay has been done in addition to the usual amount of free-hand and mechanical drawing.

Manual training.—Number of pupils, 225.

Early in the year a carpenter shop was fitted up in one of the basement rooms and all of the boys of the first two years who wished were given the ordinary course in bench work. Twelve boys formed a shop class, and each class was assigned one hour a week for a lesson and practice. This beginning in what was believed to be an important addition to the school curriculum was watched with interest. The time devoted to the work was not enough to produce any marked results, but it is certain that it did not hinder the general progress of any boy who engaged in it, and it is equally certain that the influence of the work was beneficial in various ways in the school.

Vocal music.—Number of pupils, 328: First year, 172; second and third years, 156.

The lessons in this subject were given once a week by the director of music. The classes formed two remarkably well-balanced choruses, whose singing was introduced on several semi-public occasions and received with much favor. It is believed that some spirited singing by a chorus from the graduating classes would add to the interest of the commencement exercises.

Military drill.—Number of pupils, 180: First year, 100; second year, 62; third year, 18.

This exercise is regarded with favor by the teachers and is popular with the pupils. It is in itself an excellent physical exercise, and it exerts a healthful influence over the discipline of the school, both in training pupils to the habit of instant obedience and in developing an *esprit de corps*. Although it is an "elective," every year there are more boys who wish to join the companies than there are equipments for.

The battalion of this year reached a high state of proficiency. On the 22d of February it gave a street parade; on the 25th of March an exhibition drill by companies and squads at the school building, and during the National Encampment it gave a battalion drill on the drill grounds, which was highly complimented.

The usual calisthenic drill for girls was continued. By giving these classes something of a military organization and by adding to their exercises a number of suitable military movements and forms of drill, the interest of the pupils participating was quickened and sustained, while the good results derived were correspondingly increased.

THE SCHOOL LIBRARY.

This valuable adjunct to the equipment of the school is now in a condition to afford the fullest possible help which both teacher and student can obtain from the books on its shelves. A card catalogue has been completed in which there are entries both by title and author. Also numerous reference lists have been prepared bearing upon the work of classes in different subjects. While the library is designed chiefly for reference, the books in several departments may be drawn for home reading. During the past year 13,000 volumes were drawn by pupils. One hundred and forty-four volumes have been rebound during the year and 64 new books have been added, making the number now in the library 5,200.

ANNUAL COMMENCEMENT.

The graduating exercises of the school were held jointly with those of the Normal School, at Albaugh's Opera House, on the afternoon of Tuesday, June 21. The exercises consisted of prayer by the Rev. Dr. John P. Newman, an introductory address by Judge MacArthur, an address by General John C. Black, and the conferring of diplomas by President Cleveland. Commissioner Wheatley, representing the District Commissioners, presided, and the Marine Band, under the leadership of Mr. Sousa, furnished appropriate music. The graduates from the High School numbered 40 boys and 105 girls from the full three years' course and 19 boys and 26 girls from the two years' or business course.

THE GRADUATES OF THE SCHOOL.

The following table gives the number of pupils graduating each year since the organization of the advanced grammar schools :

Year.	Advanced grammar school for girls, and girls' High School.	Advanced grammar school for boys and boys' High School.	Washington High School.	
			Girls.	Boys.
1877.....	22			
1878.....	35	34		
1879.....	24	26		
1880.....	32	20		
1881.....	33	23		
1882.....	26	23		
1883.....			23	13
1884.....			33	18
1885.....			67	48
1886.....			104	42
1887.....			105	40
Total.....	172	126	332	161
Boys.....				287
Girls.....				504
Total.....				791

An effort has been made to follow these graduates in their various pursuits since leaving school and it is a pleasure to note the uniformly good records that they are making for themselves. Over 200 of the "girls" and 13 of the "boys" are now teachers in the public schools of the District; 82 of the whole number have gone to college, 6 to West Point, 3 to Annapolis, and 47 have been or are now students in technical or professional schools; many have entered the service of the United States Government as draughtsmen, topographers, and assistants in the various scientific bureaus; 7 have entered the Revenue Marine Service, and 6 are assistant examiners in the United States Patent Office. The various crafts and trades have their representatives also, but as Washington is not an industrial city, the number engaged in mechanical pursuits is comparatively small. So far as is known (and the principal's acquaintance extends to all the male graduates), there is no one who is not engaged in some active and useful vocation.

Most of those who have attended colleges and higher institutions have sustained records there, that have reflected credit on their earlier teaching. We may mention as instances of this the fact that three of our graduates now have *honorary* scholarships at Johns Hopkins University, and that of the number now enrolled as cadets at West Point one leads his class and three others have ranks of third, eleventh, and sixteenth, respectively, in classes numbering from 50 to 100.

THE CORPS OF TEACHERS.

All of the teachers who have been connected with the school, not only during the past year but in the earlier years of its history, have been graduates of well-known institutions, and with but rare exceptions they have been able, skillful, and well qualified for the work they have undertaken.

In the eleven years since the girls' school was opened in 1876 (the school for boys came a year later and the consolidation of the two schools

in 1882) there have been 37 different persons employed as teachers. Four of these came from the Johns Hopkins University, either as graduates or fellows, 3 each from Vassar, Wellesley, and Smith Colleges and Boston University, 2 each from Yale and Dartmouth Colleges and Cornell University, and 1 each from Princeton, Bowdoin, Dickinson, and Allegheny Colleges, Leipsic, Michigan, Vermont, Wooster (Ohio) and Lehigh Universities, Oswego and Washington Normal Schools, Mount Holyoke Seminary, Ipswich (Mass.) Academy, Worcester (Mass.) Polytechnic Institute, and Douai (France) Faculté.

This record is significant in showing something of the scholastic qualifications of all those who have been appointed as teachers, and while it does not necessarily imply the best teaching possible, the high standard of scholarship which it indicates has undoubtedly contributed in large measure to whatever success the school has achieved.

BUILDING AND ACCOMMODATIONS.

The building which has been the home of the school during the past five years has been found well adapted for its work, being well lighted, heated, and ventilated, and convenient in the arrangement of its rooms; but the school has now become so large that the accommodations it affords are altogether insufficient. Since the opening of school this year (1887-'88) its capacity has been exceeded by 150 pupils, making necessary a half-day plan for this number and for as many more who alternate with them. This arrangement at best is but a poor makeshift, for it works injustice to a part of the school and naturally causes discontent.

The question of providing additional accommodations is the most important one affecting the future welfare of the school.

CONCLUSION.

Before closing this report, I desire to bear testimony to the fidelity and devotion to duty of that one of our number whose death occurred during the last vacation.

Mr. George R. Israel, who died at Knowles, Md., September 5, had been the teacher of chemistry since the present school was organized, and is justly entitled to the credit of developing the course of instruction in this important branch. A conscientious and earnest teacher, he was held in high esteem by his pupils and fellow teachers, all of whom were grieved to learn of his untimely death.

I desire also to testify to the zeal and efficiency of Miss Lydia M. Dame, who for the past five years has filled the position of assistant principal, and who resigned last June to accept a position with a higher salary in a private school. The fact of a teacher's leaving under such circumstances, however, as was the case with no less than four of those who resigned in June, ought to reinforce the statement so frequently made that the salaries in the High School are now too small to retain for any length of time the services of the best teachers.

In conclusion, I wish to thank the teachers and all who have been associated with me for the cordial co-operation they have given at all times, and acknowledge my indebtedness to the members of the High School Committee for their encouragement and support and for the assistance they have ever been ready to render in times of difficulty or doubt.

E. A. PAUL,

Very respectfully,

Principal.

OCTOBER 1, 1887.

278 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

REPORT OF THE SUPERVISING PRINCIPAL OF THE FIRST DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: I have the honor to submit the following brief report of the work done in the schools of this division during the school year of 1886-'87:

I include in this report tables of statistics, showing the distribution of schools by grades, the enrollment of pupils, the condition of buildings and of school rooms, and the number of half-day schools. The statistics are taken from the monthly and annual reports of teachers.

My estimate of the work done in the school room is based upon the results of investigations made under your direction at different times during the year, upon the reports of the teachers, upon the results of grade meetings, and upon personal observation of the work of the teacher with her class.

A more detailed report of these examinations and of supervision has been made to you at regular meetings of the supervising principals. I regret that the oral examinations and supervision could not have been more thorough and exhaustive. The numerous duties incident to the organization and management of so large a number of schools make close supervision impossible.

Distribution of schools by buildings.

	Eighth grade.	Seventh grade.	Sixth grade.	Fifth grade.	Fourth grade.	Third grade.	Second grade.	First grade.	Total.
Franklin	3	4	4	2					16
Dennison	2	2	2	2	1	1	1	1	15
Force	2	1	2	2	2	2	1	2	14
Analostan	1	1	2	4	4	2		2	14
Thomson				1	3	1	1	1	7
Fourteenth and N streets				1	1				2
1006 Twenty-sixth street						2	2	2	6
2037 F street					1		2	2	4
Fourteenth and Q streets							1	1	3
Total number of schools.	8	8	10	12	12	10	10	11	81

The above table shows the total number of schools to be 81, an increase of 4 over the number of the preceding year. New schools were made in grades 8, 7, 6, and 1. The increased number of first grades was due to the limited seating capacity of rented buildings on Twenty-sixth street and on F street.

Your attention is called to the relatively small number of lower grade schools as compared with the number of higher grade schools, a condition for which I am unable to assign a satisfactory cause.

Months.	Total enrollment.	Average per teacher.	No. of seats.	Average vacant seats per teacher.	Schools having seating capacity less than 45.
September	3,704	47	4,016	4	16
October	3,945	48.7	4,106	1.9	16
November	3,899	48	4,106	2.5	16
December	3,882	48	4,106	2.7	16
January	3,813	47	4,106	3.6	16
February	3,834	47	4,106	3.3	16
March	3,824	47	4,106	3.4	16
April	3,721	46	4,106	4.7	16
May	3,623	45	4,106	5.9	16
June	3,354	41	4,106	9.3	16

The above table is submitted in view of the published misleading statements that were made during the year in regard to the enrollment and the number of vacant seats in the schools of the first division.

The total enrollment includes all pupils enrolled in the different schools during each month, exclusive of transfers and re-entries. It is impossible to determine the *actual* enrollment in any one division from data given in the monthly reports of teachers, owing to the constant change of a limited number from one division to another. The estimate, however, is approximately correct. The number of seats in the schools has been ascertained by actual count. The small number of seats in the sixteen schools noted above is due in most cases to lack of room for more. The relatively large number of vacant seats in a few schools is due to the limited number of applicants in certain localities for particular grades, and to the unsuitable condition of buildings in which these schools are located.

April, May, and June enrollment.

School year.	April.	May.	June.	Leaving after April.	
				Number.	Per cent.
1884-'85	3,330	3,272	2,962	368	11
1885-'86	3,543	3,472	3,279	264	7
1886-'87	3,721	3,623	3,354	367	9

By comparing the April, May, and June enrollment of the past school year with the same enrollment of school years 1884-'85 and 1885-'86, we observe that the percentage of pupils enrolled in April who left before the end of June is smaller than in 1884-'85, and but little larger than in 1885-'86. It is apparent, therefore, that the discontinuance of the annual written examinations has had no perceptible effect upon the attendance during the last months of the year.

Half-day schools.

	Number of half-day schools.	Grades of half-day schools.	Number above sec- ond grade.
Franklin	2	1, 2	.....
Thomson	2	1, 2	.....
Dennison	6	1, 2, 3	2
Q street	2	1, 2	.....
Force	4	1, 3	2
Analostan	4	3, 4	4
F street	4	1, 2	.....
Twenty-sixth street	6	1, 2, 3	2
Total	30	.....	10

The abandonment of the building on Twenty-second and I streets necessitated the "doubling" of six schools in the Analostan and in the Twenty-sixth street schools. The completion of the Weightman will give an increase of three rooms over the present number, thus enabling me to restore the half-day schools of the Analostan and Twenty-sixth street schools to full sessions. In the northwestern section of the division more schools will be needed at the opening of the school year,

necessitating the renting of four additional rooms, or the "doubling" of eight third and fourth grade schools.

Condition of buildings.

Buildings.	Heat.	Light.	Ventila- tion.	Water- closets.	Play rooms.	Yards.
Franklin	Excellent	Excellent	Good	Good	Excellent	Excellent.
Thomson	Good	Fair*	Poor	Poor	None for boys	None.
Fourteenth and Q sts.	Good	Fair*	Poor	Poor	None	None.
Fourteenth and N sts.	Good	Good	Poor	Good	None	None.
Dennison	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent.
Force	Excellent	Excellent	Good	Good	Excellent	Excellent.
Analostan	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent.
F street	Poor	Poor	Poor	Poor	None	None.
Twenty-sixth street.	Poor	Poor	Poor	Poor	None	None.

* Lower rooms poor; upper rooms good.

In reference to the above report, I have only to add that so emphatic is the objection of parents and pupils to the building on Q street, and to the Thomson school, that it is with difficulty that I am able to fill the seats. The certainty of abandoning the buildings on Twenty-sixth street and on F street makes it unnecessary to comment on their condition further than to say that they are in every respect unfit for school purposes.

ATTENDANCE.

The attendance during the year has been only fairly good. I have observed that the attendance in afternoon schools is always more irregular than in either morning or whole-day schools.

DISCIPLINE.

It gives me pleasure to report a decrease in the number of suspensions, dismissals and cases of corporal punishment. I think that suspensions are still too frequent, and too often the punishment for trifling offenses. Dismissals have followed in cases of a serious nature. Corporal punishment has been resorted to only when it has been impossible to secure the co-operation of parents, when all other measures of discipline have failed, and when either suspension or dismissal would mean the abandonment of the culprit to influences it is our aim to overcome.

The discipline in school rooms and in buildings has been unusually good, a condition due to the uniformly earnest work and good judgment of principals and the hearty co-operation of teachers.

SCHOOL WORK.

I wish to express my appreciation of the earnest and conscientious work of the teachers in the school room. The attendance at grade meetings has been good, and there has been manifested an honest and, in nearly every instance, a successful effort to carry out all suggestions and instructions of Superintendent and Supervising Principal. I can not commend too highly the earnest spirit of co-operation that has been shown.

I regret that I must report several teachers for an apparent want of enthusiasm and earnestness in their work, and for unsatisfactory

teaching, to the positive injury of the pupils under their care. A few others, because of an evident inaptitude for the work, or because of a lack of proper training, have failed. Such cases have been reported in detail to the trustee of the division and to you. I hope to see improved work should they be reappointed.

In the estimate of the work of the school room given below I have made no attempt to criticise the work of separate grades or of individual teachers. This has been done at stated times during the year. With a brief statement of the work we endeavored to do, I have given an estimate of the degree of success or of failure.

Number.—Particular attention has been given to this branch in grades below the seventh. The work in the first and second grades has been thoroughly outlined in pamphlet form. The teachers have endeavored in their work to lead the pupils to develop principles and rules of work in a logical way, so that they may *see* and *understand* clearly, and be able to formulate for themselves their methods of work and definitions. They have endeavored in their work to lead the pupils *to see* clearly the relations of *numbers* and to make rule-work or rote-work with *figures* impossible because of a clear understanding of these relations. They have discouraged work in abstract numbers too large to be readily comprehended by the pupils. They have endeavored in the selection of examples to make them practical, and they have required the making of reasonable examples by the pupils, orally and in writing. The teaching of simple fractions has been introduced into the work of grades below the fifth. Only fractional parts of things were considered, and only those used whose terms were small numbers. In the early part of the work of the fifth grade, in the development of the rules of work only simple fractions were considered. No text-books were used in this part of the work. Especial attention has been given to correct expression in all number work.

The results of this work are unusually satisfactory, and show that the teachers have done faithfully and intelligently the work proposed. The pupils have taken a keen interest in this study and have shown a marked increase in power.

Geography.—The study of geography in the eighth grade has been discontinued, except so far as it may be incidentally reviewed in connection with the historical work. The elementary lessons usually given in the second grade have been omitted, the course of the third grade embracing them. The method of presenting this work was therefore somewhat changed. The work has been largely in the geography of the immediate neighborhood and in the development of the map of Washington, of the idea of relative position and of relative distance, and in the study of the points of the compass and contours. Incidentally many definitions of terms in geography were developed. In all grades in which this subject is taught the teachers have endeavored to avoid the memorizing of relatively useless facts and the names and position on the map of unimportant places. They have made an effort to study thoroughly representative cities, the habits and customs of peoples, their employments and trades, their governments, and often their history. In many schools extensive collections of pictures and products have been made by both teachers and pupils. In nearly all schools books of travel have been read; and to still further supplement this work, home study and home reading has been encouraged.

Generally the map-making has been done without diagrams, and for the purpose only of fixing in the minds of pupils the relative positions

and the relative sizes of countries. The making of elaborate maps has been discouraged as school work. Working maps, elaborated as the work in the text-books progressed, were before the pupils in nearly every lesson.

The work in geography was not uniform. In many schools this subject was well taught; in a few it was little more than a recital of bare facts from the text-book. Too little map work was done in a few schools.

History.—In this, as in geography, the teachers have endeavored to encourage supplementary home study and home reading. In nearly all schools good books have been read, and the constant use of maps in connection with all work has been urged.

I think too little attention has been given to the history of the people, their modes of life and the conditions of living, and too much to the memorizing of relatively unimportant details. The character of the text-book in use and the difficulty experienced by teachers in certain localities in procuring suitable books for supplementary reading make it almost impossible to get the best results.

The work for the eighth grade was planned by you. It has been prepared and presented with great care and intelligence by all. In the course the following general topics were studied: Defects in the Articles of Confederation, and events leading to the adoption and ratification of the Constitution; State, town, and county governments; comparison of the conditions of the country at the time of organization with those now existing.

Although the schools are poorly equipped with material for such supplementary work as is suggested in the outline, an unusual amount of thoughtful and critical reading has been done. The pupils have taken great interest in this work and have shown marked ability and intelligence in the discussion of the different topics, both in debate and in compositions.

Spelling.—The teachers have endeavored to form good habits of spelling by insisting upon correct written work at all times. Combined with the study of the forms of words, their meanings and their uses have been considered. Basing my estimate upon the reports of teachers the results have been satisfactory.

Reading.—Much reading has been done in all grades above the third. The books read were usually to supplement the work in history, geography and physiology. The result is that pupils read intelligently and easily. I think, however, that more attention should be given to the purely mechanical part of reading—to voice culture. Carelessness of expression and indistinct enunciation too often pass unnoticed and uncorrected. I think also that there should be more work done in preparation for reading, in the study of new words, allusions, comparisons, etc.; that correct expression may be the result of correct understanding; that, when reading, the *idea* and not the *word* may be the unit of thought.

Language.—Perhaps in no other branch taught has the improvement been more marked than in the ability of the pupils to express themselves correctly in speaking and in writing. This work has been emphasized in all grades. In the composition work the aim has been to lead the pupils to see and to use idiomatic English correctly for the expression of what they see. To do this, thorough oral preparation for the written work has been given. Much time was devoted in the higher grades to the study of the structure of the composition and to style.

Constant work was done in developing outlines or abstracts of subjects to be used in composition work. The method of criticising written work has been good. In the written work of all branches of study constant attention was given to correct expression. Descriptions of pictures and of objects have been made in all grades. Topics in history, geography, and physiology have furnished subjects for compositions in the more advanced grades.

The result has been most gratifying. The pupils have written more and better than ever before. Where unsatisfactory results have been observed the cause may be attributed to the failure on the part of the teacher to comprehend the purpose of the work.

Technical grammar has not been neglected. The study of that part bearing immediately upon correct expression in speaking and writing has been emphasized.

There has been some lack of uniformity in this work, due partly to the failure of the teacher to comprehend thoroughly the purpose and limit of the work, partly to the inadequateness of the text-books in use.

Penmanship.—Much writing has been done, and an effort has been made to form correct habits by always requiring the best work. Not enough attention has been given to the preparatory drill-work in movements, or to the critical study of the forms of letters and figures. In the lower grades the writing has been better than heretofore; in the higher grades not so good. The reasons for this I have indicated. Where the teachers have combined the critical study of the forms of letters with the formation of good habits of work, the results have been satisfactory. Many have done this.

Physics.—The work in this subject has been limited to the seventh grade. But little has been done. The manual prepared was put into the hands of the teachers late in the year, and the purpose of the work and methods of presenting it were not well understood by all. The difficulty many experienced in getting material and the time taken in making apparatus prevented much work. I trust that more definite instruction may be given during the next year, as I consider this work most valuable for development, if properly done.

Physiology.—In all grades lessons in hygiene have been given. Text-books have been read and the subject-matter discussed. In many schools the subject has been presented objectively. Selected topics have been outlined and have been used as subjects for compositions. Correct expression has been made an important part of the work.

Music and drawing.—As detailed reports of the work done by individual teachers have been made by the directors of music and by the teachers of drawing, I have only to add that I believe that the work prescribed has been faithfully done.

In closing, I wish again to testify to the hearty co-operation which has been so generally shown by the teachers in all work proposed. I wish also to express my appreciation of the kindness and courtesy uniformly shown to me by you in our official relations.

Very respectfully,

N. D. CRAM,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE SUPERVISING PRINCIPAL OF THE SECOND DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: Agreeably to your request, I respectfully submit the following report of the schools of the second division for the school year just ended:

SCHOOL ACCOMMODATIONS.

The school accommodations have been quite inadequate. No new buildings have been provided for three or four years. Meanwhile the schools have steadily increased in number until it has become necessary to place all the lower-grade schools on half time, and so to make one room serve for two schools.

The completion of the two new buildings now in process of erection will, in some degree, relieve this pressure, and provide for vacating the basement of the Twining School and certain rented rooms which are not well suited for school purposes.

It is pleasing to note that the District authorities propose to continue this enlightened policy of erecting buildings to supply the growing wants of our schools, and that we may hope at length to realize that most desirable state of things in which each class, be its grade high or low, shall have its separate room.

In this connection I would enter a plea for the preservation of the hall of the Seaton School. This has for several years been diverted from its original purpose and used as a school room, and recently it has been proposed to remodel and fit it for such use. The pressure for room, which seemed to demand the change, no longer exists, as at the completion of the new building on North Capitol street that locality will be well provided with school buildings. This is the only hall in the division; it is centrally located, well planned, and of good acoustic properties, and, if restored to its proper condition and use, will meet a decided want in the Second Division. Its use for a class room will probably be desirable for the coming year, but anything more than a temporary occupancy would seem a short-sighted policy, as it would in all probability leave the teachers and pupils of the division permanently without a suitable place of assembly.

ATTENDANCE AND DISCIPLINE.

The attendance during the year has been, so far as I can judge, as good as the average. The fact is noticeable that, other things being equal, the percentage of attendance in the afternoon half-day schools has been quite below that of the morning classes.

The falling off in numbers toward the close of the year as shown by the classification lists is somewhat greater than that for the preceding year, a result for which probably no definite reason can be assigned.

I think that the absence of teachers, from illness and other causes, has been less than for the preceding year.

The state of discipline in the schools has compared, as a whole, favorably with that of previous years.

With an increased enrollment, the number of cases of suspension reported to me has been smaller than for the preceding year; the proportion of dismissals as the result of suspension has also been less; a gratifying result when we consider that a considerable part of those dismissed are thrown out of school permanently and left exposed to all the evils incident to want of proper occupation and guardianship.

SCHOOL WORK.

Intimately connected with the subject of school discipline is that of school work or instruction; good discipline is an excellent augury of good teaching.

I think there has been a gain in the character of the work done in the schools during the past year in several respects.

The art of expression, the use of language, has been emphasized in all the grades and with good results. The pupils have made commendable progress in the orderly arrangement and correct expression of ideas, both orally and in writing.

The work of arithmetic has been largely directed to the simpler elementary and practical parts of the subject, and while certain changes in the order of work in this branch have been somewhat exacting in certain cases, it is not believed that the same conditions will exist hereafter.

The teaching of hygiene, prescribed by an act of Congress, has followed the course laid out and has been made interesting and instructive by objects and illustrative experiments.

The work in geography and history has been broadened beyond the limits of text-books with the special aim of giving the pupils an intelligent and comprehensive view of the subjects taught.

The work of the different grades has been reported from time to time as inspections were made, and need not be recapitulated here.

Certain aids to teachers, such as maps, globes, books of reference and for supplementary reading are needed, and should be furnished so far as the state of funds will permit.

In conclusion, it affords me satisfaction to report that the teachers of the second division have labored intelligently, faithfully, and successfully to accomplish the work of the year, and have loyally co-operated with the supervising principal in carrying out all your instructions and recommendations.

Very respectfully,

N. P. GAGE,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE SUPERVISING PRINCIPAL OF THE THIRD DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: In compliance with your request I respectfully submit the following report of the condition of the schools of the third division for the year ending June 30, 1887.

Number of schools in this division.

First grade	13
Second grade	12
Third grade	12
Fourth grade	12
Fifth grade	13
Sixth grade	9
Seventh grade	7
Eighth grade	5
Total	83

The increase in the number of schools over the preceding year is 5, distributed as follows:

One eighth grade in the Wallach, a fifth grade in the Blair, a fourth grade in the Cranch, a third grade in Esputa's Hall, and a first grade in the Brent.

The largest enrollment was during October, when the whole number of pupils was 4,332, being an average of 52.1 pupils per teacher. The number of school rooms in owned buildings was 54, and in rented buildings 11, being a total of 65 school rooms for the accommodation of 83 schools. This left 18 schools without rooms, and necessitated thirty-six half-day sessions.

The tables below show the number of school rooms in detail in buildings owned and in buildings rented, with remarks on the condition of the same as to light, ventilation, and water-closet arrangement:

Buildings.	Number of rooms.	Light.	Ventilation.	Water-closets.
Wallach	12	Excellent...	Bad.	Excellent.
Peabody	12	Excellent...	Excellent...	Fair.
Blair	8	Excellent...	Excellent...	Excellent.
Brent	8	Excellent...	Excellent...	Excellent.
Cranch	6	*Excellent...	Fair	Excellent.
McCormick	4	Excellent...	Fair	Bad.
Lenox:				
Upper room	1	Excellent...	None	Bad.
Lower room	1	Fair	None	Bad.
Seventh and G southeast	2	Bad.....	None	Fair.

*The light in the Cranch school is excellent, with the exception of the two upper rooms, where it is only fair. Heating arrangements satisfactory in all owned buildings excepting the McCormick.

Buildings rented.

Buildings.	No. of rooms.	Light.	Ventilation.	Water-closets.
Peabody annex—				
Upper	2	Fair	None*	Bad.
Lower	2	Excellent.	None	Bad.
Seventh and A streets northeast	1	Good	None	Fair.
Esputa's Hall—				
Upper	1	Good	None	Fair.
Lower	1	Bad	None	Fair.
North Capitol street	1	Bad.....	None	Bad.
Third and B streets southeast	1	Fair	None	Fair.
Fifth street and Virginia avenue southeast	2	Fair	None	Bad.

* "None " means that no artificial ventilation is provided.

Happily, three new buildings now in progress, and to be ready for use by October, will furnish 24 new and desirable school rooms. Arrangements have already been made to abandon 9 of the 11 rented rooms now occupied, at the beginning of the next school year. We shall then have 78 school rooms in buildings owned by the District and 2 rented rooms; all of them, with the exceptions indicated in the above table, well adapted to their use. This large addition to our accommodations will make it possible to restore 8 half-day third-grade schools and a like number of fourth-grade half-day schools to full sessions. Notwithstanding the great increase in school facilities by the erection of new buildings this year, I think that the crowded condition of the Cranch School and the unsuitableness of the Lenox, Seventh and G, and Fifth and Virginia avenue schools, will demand, within a twelve-

month, the building of an eight-room house in the southeast section of this division.

ATTENDANCE.

The attendance has been, in general, regular and punctual. With the exception of sporadic cases of diphtheria and a slight epidemic of measles quite late in the spring, the health of the pupils has been good.

The monthly percentages of attendance do not show a very great variation in different schools, and I am especially pleased to report that the number of cases of tardiness has been very small.

I have observed that the attendance of pupils of afternoon schools is never so good as in morning schools.

Truancy is confined to a few chronic cases, in which permanent reformation is seldom accomplished; the boys usually drifting away from school at an early age, here and there obtaining employment, and quite as often falling into vagabondism and crime. In their treatment of truancy the teachers have exercised a commendable degree of tact and forbearance.

DISCIPLINE.

Improved methods of teaching, a larger proportion each year of trained teachers, light, ventilated, and comfortable school rooms, increased attention on the part of teachers to the bodily health of pupils, the honest welcome of school-room doors thrown wide open, the familiar mingling of teacher with pupil at recesses, and her frequent voluntary dethronement from her ancient elevation of platform and desk—these, together with the salutary influence upon our youth of a law-abiding citizenship, enable me to report the discipline of our schools in a highly satisfactory condition.

The penalty of corporal punishment, while still on the statute books, is seldom applied. During the year just ended only 2 cases were reported. Forty-five cases of suspension were reported. (Last year, with fewer schools, there were 69.) Perhaps a fourth of these suspensions were for irregular attendance; the rest for flagrant offenses which could be dealt with only by an appeal to the parent by the pupil's suspension. Another disciplinary measure formerly much in vogue, that of "keeping in," is falling rapidly into disuse. The best teachers seldom resort to it. I regard it as an evidence of a lack of skill in utilizing the ordinary school hours to the best advantage.

STUDIES.

With few exceptions the teachers have labored earnestly and with intelligence to carry out the suggestions made by you in the respective grade meetings relating to the course of study. Of course, all have not had the same measure of success. I note, first, a marked advance in the ability of the pupils to arrange their thoughts in an orderly way and to express the same in writing with a fair degree of correctness, so far as the simpler essentials of English composition are concerned. Much more time has been allotted to this work than ever before.

I think the best comparative results in independent expression of thought are found in the lowest grades. In the higher grades perhaps more attention has been given to form, capitalization, and punctuation.

In teaching geography there has been a disposition to strip the subject-matter of many useless details and to make map-drawing helpful rather than ornamental.

Much map-drawing has been done without diagrams, consisting of sketches sufficiently accurate to help the memory and keep the map work abreast of the text. Tracing an outline and filling in as the subject is developed has been employed to good purpose.

All the schools in which geography is taught have done more or less supplementary reading in books of travel, and in many schools of the fifth and sixth grades the pupils have made interesting collections of specimens of raw materials and manufactured articles tastefully arranged and classified as the products of various countries.

The study of United States history has been hampered somewhat by the continuance in use of a meager and uninviting text-book. Much valuable reference work and supplementary reading in this connection has been done in the sixth and seventh grades, especially in the former. In the eighth grade the plan of historical study outlined by you and placed in the hands of the teachers quite late in the year met with their general and hearty approval, and was developed beyond my expectations, in view of the brief time remaining for new work.

The greatest drawback here is the want of books accessible to all the pupils.

The commendable features of the work in arithmetic I consider to be the strengthening of the reasoning powers by the use of many and varied practical problems, and in the lowest grades the thorough objective presentation of the relations of numbers.

Owing to the great amount of time consumed in written language work and in number, the reading, generally speaking, has not been up to the usual standard.

With regard to spelling, there can be no question that excellent habits of self-criticism have been inculcated, dictionaries have been more widely used, and the better spelling of words used in every-day writing has resulted.

The teaching of hygiene, with especial reference to the effects of alcohol and tobacco, as prescribed by law, has been quite as thorough as could be expected.

I am certain that while the children know less than formerly of hygiene and physiology *per se*, they are tolerably well posted as to the purely physical objections to the use of stimulants and narcotics.

I wish to express my appreciation of the cheerful alacrity with which the teachers have in every instance responded to my suggestions, and to convey to you, as well, my grateful acknowledgments of your uniform courtesy and indulgence.

Very respectfully,

A. T. STUART,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE SUPERVISING PRINCIPAL OF THE FOURTH DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: I have the honor to submit herewith a report of the schools of the fourth school division for 1886 and 1887.

It will be seen by reference to my monthly reports, on file in your office, that the average daily attendance, as well as the average per cent. of attendance and punctuality, has been good, slightly better than for the preceding year.

Too great praise can not be awarded the teachers for their efforts to maintain a high grade of scholarship and to make the pupil's school-room hours the happiest of the day, thus securing better results in recitations and in attendance.

While the legitimate school work must be paramount, lessons in honesty, morality, and self-reliance have been daily taught, which must form enduring traits in the character of the pupil.

On the playgrounds there have been no serious accidents or disturbances of any kind—a pleasant fact that must be credited in the main to the vigilance and discretion of the principals and janitors, whose various duties have been especially well performed at the Jefferson, Amidon, and Potomac Buildings.

During the school year we were visited by many persons, some of whom were patrons of the school, yet many parents never entered the school room. Parents expect much of us. They do not expect more than they should. If we are doing well, they should come and tell us. If they are not satisfied with what is done they should come oftener, and not leave this duty for the citizens' committee. Parents should study their children at school as well as at home. They might thus be able to assist us.

Let the future welfare of your children have as prominent a part in your daily thoughts as that of your horses or other possessions.

STUDIES AND PROGRESS.

I submit herewith a few statements, comments, and suggestions, the result of my frequent inspection of the classes in the studies of the prescribed course.

Reading.—In reading there has been shown a gratifying degree of proficiency. Yet many of our schools are far from perfection in this matter, and there is still room in most of them for further advances along this line.

A change of reader in the fourth grade, and a few series of reading-books introduced in each grade above the fourth as auxiliary or supplementary to the class reading-book, would have a tendency to incite and encourage a stronger desire for useful information generally.

Spelling.—In most of our schools the results in spelling were of a high order of excellence. Instead of long lists of words, spelling was taught to a large extent by writing in connection with language exercises or composition. This important exercise is commenced in the lowest grade, the pupils being required to write the words which they have been taught to read at sight from the blackboard.

Arithmetic or number.—The work in arithmetic or number was much better done in all the grades than ever before to my knowledge. The teachers endeavored to carry out your suggestions in mental arithmetic, by giving short examples of a practical character, such as the pupils will probably meet with in subsequent life.

Grammar or language.—In this branch of instruction substantial progress has been made. "According to Rule IV, which says," is now but seldom heard, and I have reason to hope that another year will witness its complete extinction. Practical language lessons now begin with the first school-day and continue to the end of the course. Teachers are constantly admonished by your motto, "To see and to do," and as constantly are they urging upon their pupils the importance of a true knowledge of this motto. Special attention is paid to the subject of language.

Composition.—Of this important branch I have the pleasure of stating that excellent work is done. The subjects chosen by the teachers are in general well adapted to the knowledge and general development of the pupil. The substance of the oral instruction about animals, plants, and minerals, stories from the reading-book, pictures, and letters supposed to be addressed to friends, furnish the greater part of the themes for the lower grades.

Geography.—This subject is generally well taught. I think, however, an outline, such as the Superintendent might suggest in one of his talks, would be very beneficial, thereby producing greater uniformity in the teaching of this subject.

History.—The work in history appears to have been as successful as in former years. In the eighth grade great improvement has been made by adopting certain suggestions recommended by the Superintendent. A change of text-book, however, I think is desirable.

Penmanship.—It gives me pleasure to report that most of the schools have attained a very creditable degree of success in this important branch. "Practice makes perfect," is an adage not less true than old. And in no matter is its force more clearly shown than in penmanship.

Music and drawing.—There being special teachers for these subjects, I will presume that they have reported.

In reviewing the work of the year, it gives me great pleasure to be able to say that my relations with you and Maj. R. A. Fish, trustee of the fourth division, have been uniformly harmonious and agreeable. I have to thank you for your continued and hearty support.

For frequent expressions of good will to the schools and the teachers, I wish to make grateful acknowledgment to the South Washington public.

Of the hearty support and generous co-operation of the teachers, for which I am especially grateful, I desire to make this public mention.

Very respectfully,

ISAAC FAIRBROTHER,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE SUPERVISING PRINCIPAL OF THE FIFTH DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: It is with pleasure I report to you the condition of the schools of the fifth division at the close of this school year, feeling as I do, that it has been a particularly profitable one. The schools, as a whole, are in excellent condition, the weak places being few, as shown by my report of individual examinations.

I have been much pleased with the broadening effect produced upon the minds of the pupils of the upper grades by the use of collateral reading in connection with history and geography, which has aided, greatly, in arousing an interest in, and in establishing a greater love for these subjects.

The improvement in language and arithmetic, through all of the grades, is gratifying, but the most marked advancement is noticeable in the development of the first and second grades in these subjects.

The facility with which the pupils of the lower grades handle numbers, integral, fractional and denominate, as well as words and sentences in composition, and the intelligence displayed in their reading, are remarkable.

An improvement in spelling is also noticeable, the pupils being able to spell most of the words in their own vocabularies, less attention having been paid to spelling, by rote, technical and difficult words not used by the pupils.

The attendance has been good, though an improvement in some schools in this particular is desirable.

The discipline is excellent throughout, cases needing the personal attention of the supervising principal being very rare.

The general health of the pupils has been exceptionally good.

In reference to the supervision of my schools I would say that it has been effected by meetings of the teachers of each grade once or twice a week, in which methods and ideas were discussed and compared, pleasant and unpleasant experiences related, and the best way of promoting the one and remedying the other decided upon, all of which has been followed up by inspection and critical observation of details in the school rooms.

The children who have been obliged to attend afternoon schools have not done so well as those attending in the morning. I hope during the coming year we may be able to have only morning schools for the lower grades.

I desire to speak of the condition of some of my school rooms. Those of the Montgomery street and High street buildings are undesirable, having no cloak-rooms. The pupils are obliged to sit in rooms in which frequently are wet or damp wraps. One room at the Montgomery street is quite dark and damp, making it unfit for use. It should be abandoned. This is also the case with two basement rooms in the Addison, which, since there has been no fire in them, have shown signs of dampness which, I think, would render it advisable not to use them another year.

If the Curtis Hall and the Night School room are converted into school rooms, giving us three additional ones, the renting of five additional rooms would be necessitated for the accommodation of all of the schools of the fifth division for the coming year.

If arrangements could be made by which the janitors could get some whitewash brushes, a little paint, and varnish occasionally, the appearance of the desks and surroundings could be much improved.

I desire to express my gratitude to the teachers of my division for their willing and thorough co-operation, to Mr. W. W. Curtis, the trustee of the division, for his cordial support, and to you for your indulgent consideration throughout the year.

Very respectfully,

B. T. JANNEY,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE SUPERVISING PRINCIPAL OF THE SIXTH DIVISION.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: I have the honor to report the following:

The county schools, established by act of Congress approved June 25, 1864, for the past twelve years or more have been steadily advancing under many disadvantages toward a higher moral and intellectual plane and in all material interests, and I am pleased to state that their general condition since your appointment to the superintendency, and especially during the session just ended, will compare very favorably with their condition at any former period of their history.

Three new half-day schools were organized during the year, one at each of the following places: Grant road, Mount Pleasant, and Hamilton road, making at present 54 schools, having 56 teachers, including the supervising principal, and an average enrollment per month of nearly 2,600 pupils.

One school in the Hamilton building, Bladensburg pike, was discontinued on the 31st of October last for want of a sufficient number of pupils to justify its continuance, the erection of the Blair building in the northeastern part of the city having drawn off all of those pupils living within the city limits.

Four more schools will be needed the coming session—one at each of the following places: Columbia road, Mott building, Hillsdale, and Hamilton road.

The attendance of pupils has been remarkable, having averaged about 90 per cent. of the enrollment, which is high for the rural districts.

Less than two cases of tardiness per pupil on the average have occurred during the session, which is a good showing when bad roads and long distances are considered.

The discipline of the schools generally is excellent, being mild yet firm. Instead of physical or brute force, as in the early history of our schools, higher and more reasonable inducements are employed to gain the children's attention and to lead them to the performance of duty. No corporal punishment was reported in the white schools for six months, and none in the colored schools for three months, while in both combined but 46 cases were reported during the year. This record is unprecedented in the schools of the sixth division.

The scholarship has steadily improved. With a corps of faithful and unusually efficient teachers (with but few exceptions), under the direction of the Superintendent, who has frequently and earnestly presented to us many new and valuable suggestions and practical methods, there has been a steady and satisfactory advance in a large majority of the schools, a few having improved at least 100 per cent., only three or four having made but little progress, and but one having made no perceptible change for the better.

While there has been the usual advance in all of the subjects taught in the schools, I wish to make special mention of the great progress observable in language and arithmetic. The children in all the grades, and especially in the lower classes, have a better knowledge of the use of language and can express themselves in better English than heretofore, while technical grammar has by no means been neglected. Composition has been rendered easy, being taught intelligently and from a knowledge of its underlying principles.

Spelling has received, as heretofore, due attention, though the method by which it has been taught differs somewhat from the old. The old method of committing to memory the spelling of words, while not entirely abandoned, has been happily combined with the more rational one of teaching the orthography and use of words in connection with written language or composition.

In arithmetic but little stress has been given to fixed rules and abstract propositions, but in their place principles and practical problems have been substituted. All unnecessary parts that do not enter into practical life have generally been omitted, only the important and practical matter being retained and taught.

The improvement in language and arithmetic is very gratifying, as they are so important in the business of life. The children are taught to see, to think, and to conclude before undertaking to answer, or to explain a proposition.

Lectures on music have been given as usual by Professor Butterfield, and on drawing by Mrs. Fuller. Both of these teachers have made visits to several of my schools, and have rendered much assistance in their respective subjects.

The superintendent has made 167 visits to these schools during the session, an average of three visits to each school. Miss Atkinson, principal of the Normal School, has made frequent visits to several schools in this division, and both have rendered the teachers and myself valuable assistance, for which I am grateful.

The supervising principal has made 799 visits during the session, or an average of fifteen visits to each school, traveling about 1,500 miles.

In addition to the regular meetings on pay-day, there have been five general, two special, and four grade meetings held at the Franklin for our benefit, all of which have been addressed by the superintendent on the best methods of teaching, etc. Mrs. Fuller and Professor Butterfield lectured at several of these meetings.

Two graduates of the Washington Normal School were sent into the county last fall and did excellent work. I am glad that the attention of these young lady graduates is being turned towards the healthful exercise of teaching in the rural schools.

Teachers seem to be deeply interested in their work, and the general scholastic tone of the schools, as manifested both by teachers and scholars is excellent. I feel very much gratified at the progress made.

Not the least in importance is the fact that we have been promptly furnished with all necessary supplies and working material.

We have been fortunate in securing through the Honorable District Commissioners an appropriation from Congress for an additional story to the Tennallytown building, giving us two more rooms at that place, an additional room on the Columbia road, and two more rooms to the Hamilton road building, all of which, I presume, will be ready by the opening of the schools in September next, affording us much needed relief.

We are now renting the Prescott building at \$400 per annum, and a one-room building on Naylor's farm, Good Hope Hill, at \$100. Lots should be purchased and buildings erected for these schools as soon as possible.

Two schools are taught in basement rooms in the Hillsdale building which I regard as unhealthful. In fact, I think the whole building is unsafe and the present site an inappropriate one.

Other new buildings will soon be needed in the county, as the schools are increasing in numbers rapidly.

The sanitary condition of the school-houses and out-houses, with the above-mentioned exception, and probably one or two others, is very satisfactory, being as good, I think, as can be secured with the facilities at hand at this time.

The health of the children has been generally good, only one or two deaths having been reported during the session. The loss of time from ordinary ailments and bad weather has not been greater than in years past.

Very respectfully,

JOSEPH R. KEENE,
Supervising Principal.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE DIRECTOR AND THE ASSISTANT TEACHER OF MUSIC.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: We respectfully submit our second annual report of the examination in music.

The first, second, and third grades stand, according to our marking, about the same as they did last year. We have marked closer than last year; we think, therefore, there has been an improvement this year.

The fourth-grade schools have nearly all finished their limit and can sing two-part music in all the major keys, showing a decided improvement over last year.

The fifth-grade schools are about the same as they were last year. We think more attention should be given to teaching time in this grade, and we have said this to the teachers.

The sixth-grade schools have been improved most of all. It is in this grade that three-part singing is first taught, and most of the teachers have succeeded in getting their pupils well "grounded in three-part singing."

The seventh-grade schools also show improvement.

The eighth-grade schools average about the same as last year. Their work is not as uniform as then, for although they have twice the number of excellent schools this year that they had last, they also have three poor schools where there were none last year, and five a little better than poor where they had only two last year.

There is a decided improvement in the classification of the voices for three-part singing, and some of the teachers have managed the voices under their charge admirably, but there is still a great chance for improvement in this respect. Some have yet to learn that "it is not he who sings loudest that sings best."

We have examined 354 classes since the 26th of April (going together), notwithstanding the extra number of holidays and the fact that the director of music has given eight lessons to the High School in the mean time.

We have also spent three days in revisiting the schools. We find that while some teachers have kept the work up, others have dropped it since the examination and have given the time to other studies.

Our method of examining was as follows: The pupils were required to sing two or three pieces from the charts or books under the direction of the teacher, and were asked such questions as were suggested by the manner in which the pieces were performed. We then put a piece of

music (especially prepared for the grade) on the board to test the pupils in sight-singing. At the close of the examination we made such suggestions to the teacher as we thought would improve the work. The great majority of the schools marked excellent sang these test exercises correctly at first sight, while the remainder needed only a suggestion here and there to enable them to sing them correctly the second time trying.

To the regular teacher belongs in a great measure the credit for the good work accomplished, as our visits during the year were so few that without faithful, intelligent work on the part of the teacher the results could not have been so creditable.

The summary of our rating is as follows:

Number of schools considered excellent, 72; good, 118; fair, 146; poor, 18.

Very respectfully,

F. H. BUTTERFIELD,
Director.

J. H. DANIEL,
Assistant.

Mr. W. B. POWELL,
Superintendent of Public Schools.

REPORT OF THE DIRECTOR OF DRAWING.

WASHINGTON, D. C., *June 30, 1887.*

DEAR SIR: No formal changes were made in the prescribed course of study in drawing the present year. A thorough supervision of the schools and an examination of results suggested some improvements. During the year these were made in selected grades and in individual schools. The results of these experiments, together with the ideas that prompted them, are here presented.

The teachers generally carried out the course as indicated by their text-books and the outline given them; some, however, missed the spirit in which the work should be done, making the teaching too theoretic and the drawing too mechanical. Drawing is the language of form; it has no purpose but to express ideas about form. If this thought is not ever present in the mind of the teacher, and is not impressed upon the mind of the child, the connection between the expression and the thing expressed is not defined with sufficient clearness. The result is often a lack of interest in the subject, and a consequent carelessness in drawing that can be checked only by constant effort on the part of the teacher.

A more thorough knowledge of the subject, and clearer ideas of the end to be attained, on the part of teachers is much to be desired. In the subject of construction, especially, much has been done the present year. Molding in clay to a limited extent has been practiced in the first and second grade of schools for the last three years. There is no reason why it should not be continued in advanced grades. More time than usual has been given to it the present year, and an effort has been made to introduce it into the schools of the fourth grade, but the inexperience of the teachers in handling the material, and the fact that so many of these schools held only half-day sessions, made the attempt but partially successful.

A course in paper folding was given to the schools of the first and second grades the last term of the present year. The material which was supplied to the schools consisted of 4-inch squares of paper. The teachers were instructed in its use and given a definite course to pursue. The course consisted, (1) of folding the geometric forms in a methodical manner, (2) representing these forms by drawings, (3) making oral descriptions of the forms, (4) making with the folded papers original arrangements and representing these by drawings. The course was very successfully carried out. The paper folding is preceded in the first grade by the molding of solids in clay, the outlining of planes with splints, and a series of drills in taking positions and in movements of the hands and arms. It is believed that such a course in the first grade systematically carried out will insensibly lead to clear conceptions of forms, and will prepare the children for an intelligent expression of these conceptions. The terms should be taught by their constant use orally in connection with the forms and in the written description of them. In the third year these foldings should be continued and the cutting of overlying forms from paper preliminary to the drawing of ornamental forms and designing should be introduced.

A suggestion was made to teachers of the fourth year in regard to connecting the constructive drawing and the design with the making of objects, which was by some carried out very successfully. The construction of regular hexagons and octagons was taught by folding and cutting the forms from paper. Designs in these forms for pen-wipers were then made and executed in suitable material; other applications of these forms were suggested, and in many cases carried out by the children at home. In the fifth year, where the making of working drawings forms part of the course, much interest was inspired and successful work was done in making constructions from the working drawings. Geometric solids, boxes, baskets, steps, toy sleds, and houses were made by the children using as material principally card-board, sometimes wood when the constructions were made at home.

The coming session the making of working drawings will be continued in the sixth, seventh, and eighth years, and the constructions connected with the drawings will naturally be continued. This outline incorporates the idea advanced as related to construction. In the representation of appearances the point must be gained by more drawing directly from objects; in decoration, by more systematic and careful study of natural forms, and the execution of such simple original arrangements as the pupil is called upon to make in clay, wood, cloth, or other material to which it is adapted. One design well conceived and executed would be worth a dozen as they are usually made. The object sought by the systematic introduction of these exercises is not industrial education in its technical sense, although their value as a foundation for all pursuits involving hand work is readily seen. It is purely educational, and is in the interest of drawing itself as a practical study, and above all as a means of development. The connection between the language of drawing and the forms it describes must be felt by the child, and this can result only when he translates his drawings into real forms by construction and expresses his ideas of objects by object drawing. It is not enough to tell the child that such translations can be made and to explain the methods by which they are made; he must construct these forms for himself. The instinct of doing is strong in him, as all parents know, and if not guided in constructive efforts it will be devoted to destructive ones.

It is evidently so necessary to the manufacturing interests of our country that our artisans should have a knowledge of drawing that much attention has been called to the practical advantages to be derived from such knowledge.

The value of the study as an educational factor, however, is only beginning to be recognized, and its power to develop the faculties of the mind by the systematic training of the eye and the hand has not been fully developed. The study is already placed upon a strong and sure foundation in our schools. To introduce all approved methods in order to give to it its full development both as a practical and an educational factor will be the aim of all my efforts so long as I am intrusted with its guidance. To make these efforts successful it will be necessary to supply to the teachers materials, as clay, paper, card-board, and models. Our teachers are always ready to do everything in this direction that can be reasonably demanded of them, and many have done much more. Many parents will see the value of the work and will do their part, but many will not or can not, and the interest of parents should be depended upon only for extra outside work that may be inspired by the work done in the schools. For the regular instruction it is essential that there should be some uniformity in the material and a regular source of supply. A few models that every school can be sure of possessing are also required. Another necessity is time. While it is desirable and possible to so interest the children that they will do some of the work at home, they must be taught the right way and practically do some of the work in the school. The time at present devoted to drawing is not sufficient for such a course as I have suggested, and it is for those who frame the general course of study to consider whether such work is of sufficient value to warrant them in so adjusting it as to give sufficient time for this work.

In the supervision of the schools able assistance has been given by Miss Hilda North, who was assigned to the position of assistant the past year. She has constantly visited and examined the primary grades and has presented to the director a weekly detailed report from the schools visited. It is due to Miss North to state that her duties have been performed with faithfulness and efficiency.

A drawing examination on blanks provided for the purpose was held in fifth, sixth, seventh, and eighth grade schools June 17.

THE NORMAL SCHOOL.

Much time has been given by both director and assistant to the Normal School. As our schools are yearly supplied with teachers from this source, training there is a direct means of improving the methods in the schools. It is also necessary, in order to carry out efficiently the objective methods of teaching all subjects now so universally used, that a teacher should possess a facility in drawing and a universality in its application that can be acquired only by much practice. This power of making rapid blackboard sketches is a necessary part of the technical education of the teacher, and has been so recognized in our Normal School for many years. This year the regular weekly hour of practice in this specialty, of which Miss North has taken the charge, added to that necessitated by the teaching in the practice schools, has assisted in giving the present class unusual facility in the use of the crayon. Four lessons per week were given by the director to the normal class the first half of the year, two to each division of the school; this was found the last half of the year to be impracticable, when two lessons

per week were given to the schools united. The lessons in the practice schools were supervised by Miss North, and followed the course of study arranged for them.

THE HIGH SCHOOL.

Miss Annie M. Wilson was formally transferred to the corps of teachers in the High School, and continued to perform the duties with the faithfulness and efficiency which has always characterized her work and won for her her present position. Two lessons per week were given to second and third year special classes by the director. The course of study was unchanged except that much more time was given to molding in clay. The second year special class molded vases and ornaments from models, leaf forms from nature, and original arrangements of these. In the third-year class were molded ornamented vases and panels arranged from natural forms. It seems desirable that molding should be introduced into some at least of the regular classes, but to do this would require that a room be especially assigned for the purpose. It is inconvenient to do the work in the regular class room and to keep the necessary quantity of clay in order there.

Respectfully submitted.

S. E. FULLER,
Director of Drawing.

Mr. W. B. POWELL,
Superintendent of Public Schools.

SUPERINTENDENT COOK'S REPORT.

OFFICE OF SUPERINTENDENT PUBLIC SCHOOLS,
Washington, D. C., November 29, 1887.

To the Board of Trustees Public Schools, District of Columbia:
GENTLEMEN: I respectfully submit my report of the schools of the seventh and eighth divisions for the year ending June 30, 1887.

The entire number of schools in the two divisions was 168, or 7 more than in 1885-'86. They were classified as follows:

First grade	46
Second grade	34
Third grade	24
Fourth grade	20
Fifth grade	16
Sixth grade	11
Seventh grade	8
Eighth grade	6
High School	1
Normal School	1
Manual Training School	1

From want of separate rooms, 92 schools were located in 46 rooms. Of the schools so located, 40 were of first, 29 of second, 17 of third, and 6 of fourth grade.

The whole number of pupils enrolled, not including the enrollment in the Normal School, was 10,345. The per cent. of the enrollment of the school population, as given by the United States Census of 1880, was 86.6. In the absence of an annual census it is impossible to state exactly what per cent. of the actual school population was enrolled. The estimated population, proportionately determined from the increase

FEMALES.

Grade.	Seventh division.			Eighth division.			Total.	Per cent.	Average age.	Grand total.	Per cent.	Average age.
	Number.	Per cent.	Average age.	Number.	Per cent.	Average age.						
First	565	24.9	8.1	787	28.7	7.9	1,352	25.9	7.9	2,671	29.4	8.1
Second	415	18.3	9.6	544	19.8	9.6	959	18.5	9.6	1,774	19.5	9.7
Third	340	15.0	10.8	427	15.5	10.8	767	14.7	10.8	1,374	15.1	10.8
Fourth	312	13.8	12.3	344	12.5	11.7	656	12.6	11.9	1,141	12.6	11.9
Fifth	244	10.8	13.0	282	10.3	12.8	526	10.1	12.9	820	9.0	12.8
Sixth	173	7.7	14.1	158	5.8	13.6	331	6.4	13.9	508	5.6	13.8
Seventh	121	5.4	14.6	118	4.3	14.5	239	4.6	14.6	323	3.5	14.4
Eighth	93	4.1	15.5	85	3.1	15.3	178	3.4	15.4	234	2.6	15.3
High School							198	3.8	17.3	246	2.7	17.2
Total							5,206			9,091		

At that date there were enrolled in the schools 3,885 boys and 5,206 girls, or 1,321 more girls than boys. About 46 per cent. of the entire colored school population of these two cities are boys. This percentage is about maintained in the enrollment in the first four grades. After the fourth grade the disparity in the enrollment of boys increases as the grades of schools advance. In the High School for every boy there are four girls enrolled.

The average age of pupils at that time was as follows:

	Years.
First grade	8.1
Second grade	9.7
Third grade	10.8
Fourth grade	11.9
Fifth grade	12.8
Sixth grade	13.8
Seventh grade	14.4
Eighth grade	15.3
High School	17.2

In many instances circumstances in life are unfavorable to early entrance into the schools, hence the average age for each grade is larger than the corresponding legal school age would be expected to indicate.

The following table shows the entire and average enrollment of pupils and the number of pupils in daily attendance, each with per cent. of increase and the percentage of attendance based on the average enrollment, for the last ten years:

[Normal Schools not included in this table.]

Years.	Whole number enrolled.	Per cent. of increase.	Average number enrolled.	Per cent. of increase.	Average number in daily attendance.	Per cent. of increase.	Per cent. of attendance.
1877-78	6,515	9.42	5,649	16.69	5,525	16.34	97.8
1878-79	7,731	18.66	6,285	11.25	6,128	10.91	97.6
1879-80	8,061	4.26	6,573	4.58	6,412	4.63	97.4
1880-81	8,146	1.05	6,567	.....	6,312	.....	96.6
1881-82	8,289	1.75	6,763	2.98	6,536	3.05	96.7
1882-83	8,710	5.07	7,076	4.53	6,815	4.26	96.2
1883-84	9,167	5.24	7,225	2.19	6,895	1.17	95.5
1884-85	9,598	4.70	7,689	6.42	7,287	5.68	94.9
1885-86	10,138	5.62	8,191	6.52	7,756	6.43	94.6
1886-87	10,345	2.04	8,448	3.13	7,956	2.57	94.2

ACCOMMODATION.

An idea as to the extent of present accommodation and its character, and the want of sufficient and proper accommodation, may be readily gained from the following tabular exhibit:

School buildings.	Rooms owned or rented.	Whole number of rooms used as school rooms.	Rooms used as school rooms very objectionable for such use.	Whole number of schools.	Schools of first and second grade.
Seventh division :					
Sumner	Owned.....	10	.....	12	2
Stevens	Owned.....	19	5	22	10
Miner	Rented	*3	3	7	5
Twentieth and R streets	Rented	1	1	2	2
Garnet	Owned.....	12	.....	19	9
Wormley	Owned.....	8	.....	11	5
Chamberlain	Owned.....	2	2	2	2
Eighth division :					
John F. Cook	Owned.....	11	3	13	3
Proctor	Rented	4	4	8	7
Banneker	Owned.....	8	.....	12	6
Lincoln	Owned.....	13	2	20	11
Lovejoy	Owned.....	6	.....	6	4
Randall	Owned.....	12	4	18	8
Rehoboth chapel	Rented	1	1	2	2
Anthony Bowen	Owned.....	8	.....	11	6
Total		118	25	165	80

* The remaining eight rented rooms in the Miner Building were used by the High School.

The facts set forth in the above exhibit are such as to solicit, in the interest of proper education, early and serious consideration. There are shown 118 rooms for 165 schools, or 47 schools more than rooms.

The scant provision is intensified by the fact that at least 25 of the 118 rooms are very objectionable in their use for school purposes. The objections exist in their ill conditions; dampness, insufficiency of light and means of ventilation; too limited dimensions, and the degree of general inadaptability in construction.

Proper sanitary conditions, apart from other weighty considerations, strongly favor individual school-room occupancy. In the great want of accommodation, the necessities of the schools have compelled the ignoring of these conditions, in many instances, in the use of one room by two schools.

If the best conditions for the health of pupils be sought, the enrollment of the last year will indicate the present need of a large number of school rooms, in addition to the existing number now fit for healthy occupancy.

The new eight-room building, Magruder, on M street between Sixteenth and Seventeenth streets northwest, will afford relief to the schools in the Sumner and Miner Buildings; and the one, Giddings, on G street between Third and Fourth streets southeast, to the schools in the Lincoln Building.

The Garnet Building, with an excess of 7 schools more than rooms; the John F. Cook, Proctor, and Banneker Buildings, with an excess of 10; and the Randall and Anthony Bowen, with an excess of 9, all aggregating 26 schools more than rooms, show, without considering the annual increase in the enrollment and the present use of rented and ill-conditioned rooms, immediate want of several new buildings for these two divisions.

In consideration of the above facts, and to meet the most pressing needs, I would recommend that an eight-room building be located at some point between Second west and Second east and I and F streets north, another at some point between P and R and Fifth and Eighth streets northwest, and another at some point between Second and Sixth streets, Maryland and Virginia avenues southwest. By the erection of a building of special adaptation for the High School, the entire use of the Miner Building by schools of lower grade will afford relief in that section of the city.

The accessibility of accommodation afforded to the school population is quite an important factor in its large enrollment in the schools. There are fifteen buildings (eleven owned and four rented) occupied by the schools of the seventh and eighth divisions, which embrace the entire area of the cities of Washington and Georgetown. These buildings are generally so located as to be fairly accessible to large portions of the school population. There are, however, portions of it that do not share this convenience. Among the most notable is that very large portion residing south of H street between Seventeenth and Twenty-seventh streets northwest. I would therefore recommend that an eight-room building be located at some eligible point in that section of the city.

DISCIPLINE.

There were 110 cases of corporal punishment during the year, or 49 cases less than in the previous year. The number of suspensions was 187, or 63 less than in the previous year. The number of pupils dismissed was 4.

The following table shows the number of cases of corporal punishment, the number of cases of suspension, and the number of cases of dismissal for each year of the last ten years:

[Normal School not included in this table.]

Years.	Average enrollment of pupils.	Corporal punishment.		Suspension.		Number of cases of dismissal.	Tardiness.	
		Number of cases.	Number of cases to every 100 pupils.	Number of cases.	Number of cases to every 100 pupils.		Number of cases.	Number of cases to every 100 pupils.
1877-78	5,649	456	8	229	4	30	745	13
1878-79	6,285	525	8	276	4	82	1,044	16
1879-80	6,573	663	10	397	6	86	1,478	22
1880-81	6,567	562	8	437	7	59	1,844	28
1881-82	6,763	396	6	327	5	23	1,759	26
1882-83	7,070	157	2	330	4	8	2,035	28
1883-84	7,225	135	2	346	5	13	2,352	32
1884-85	7,689	186	2	319	4	8	3,462	45
1885-86	8,191	159	2	250	3	3	3,906	47
1886-87	8,448	110	1	187	2	4	3,345	39

In the ready comparison with other years showing the number of cases in each particular of discipline named to each one hundred pupils of the average number of pupils enrolled, a fair idea of the standing and progress of the schools as indicated by such essentials may be gained.

There were 3,345 cases of tardiness during the year, or 561 cases less than in the previous year. The average number of cases to every one hundred pupils of the average enrollment was 39, or 8 less than in 1885-'86.

PROMOTIONS.

The number of pupils on the rolls in schools from the first to the eighth grade, both inclusive, on the last day of the school year, was 7,197. Of this number, 5,277 pupils were promoted. In the first four grades the per cent. of promotions was 72.5; in the second four grades, 75.2.

HIGH SCHOOL.

The whole number of pupils enrolled in this school was 276, or 29 more than in the previous year. Of this enrollment, 225 were females and 51 males.

The average number enrolled was 233, and the average number in daily attendance 218. The per cent. of attendance, based on the average enrolment, was 93.3.

In my last report I used the following language with reference to this school:

The inconveniences to which many of the pupils in attendance at this school are subjected on account of its location are very great. It should be centrally located. Its removal from the present building is also favored by the want of the rooms now occupied by it for schools of lower grades, to meet the wants of that section of the city in respect to accommodation.

The enrollment in the current school year is so large as to require the use of the entire building, except the basement rooms (which are poorly adapted to school-room use) and the two rooms occupied by the Normal School. This school has now reached such proportions in number as to require not only ample accommodation but a building of special construction, with such facilities as tend to insure the best results.

As the facts upon which the above statements were based still exist, and the need of a special building is yet more pressing in the still greater accessions, since that report was made, from the eighth-grade schools to that school, I again recommend that a building of special adaptation to this school be erected at some point near the adjacent boundaries of the two divisions, offering as far as may be practicable the greatest degree of accessibility to the entire school population.

The following-named pupils were graduated June 17, 1887:

Anne L. B. Alexander, Amaleta Alexander, Medora Allen, Julia M. Alston, Clara G. Arnold, Mary E. Barney, Narcissa E. C. F. Beale, Henry N. Bowles, Annie D. Brooks, Mary E. G. Brown, Marie Bowie, Mary E. Clarke, Laura V. Collins, Marie A. Deitz, Sarah L. G. Dickson, Sarah E. Dorsey, Emily E. Francis, Emma V. George, Fannie C. Glascoe, Isabel Kinner, Josephine D. Lewis, Marguerita L. Lucas, Fannie Martin, William A. Nichols, Emma L. Pindle, Jesse N. Pierson, Maggie B. Saunders, Elizabeth H. Scott, Alice V. Shorter, Sarah E. Smith, Frances A. Smith, Mary A. Stewart, Charlotte V. Stewart, Daniel B. Thompson, Catharine F. Wall, Mary L. Watson, Eulalia Wheeler, Marie I. Williams, Ida C. Winslow.

MINER NORMAL SCHOOL.

The annual examination for admission to this school was held June 6, 1886. At this examination there were 33 candidates, all of whom were most recent graduates of the High School. The 20 standing highest in the examination were admitted to the school at its reopening in September, and on completion of the prescribed course graduated from it June 15, 1887.

The following is a list of the names of the graduating class:

Leila L. Amos, Janie F. Bell, Adeline H. Berry, Ursuline V. Brooks, Eslanda E. Cardozo, Lilian B. Cross, Martha B. Fisher, Martha A. Gray, Emma A. Guilbery, Williana M. Harris, Hattie L. Hawkins, Fannie B. S. Johnson, Emma L. Kinner, Ellen M. Lynch, Susanna H. Reed, Mamie L. Tancil, Anna E. Thompson, Harriet V. Tibbs, Lavinia E. Waring, Lilian L. Welsh.

In accordance with a rule of the Board, which provides that graduates of said school who have taught not less than one year and given evidence of their ability to govern and instruct a school, shall receive it, the diploma of the Miner Normal School was conferred upon the following-named graduates:

Emma Davis, M. Bessie Smith, Lyda E. Malvan, Jane L. Cox, Jane E. Thomas, Marcellina L. Brown, Mary M. Syphax, Georgia Brooks, Emily N. Sewall, Cornelia B. Costin, Josephine B. Evans, Mary J. Hill, Alice V. Ashton, Rebecca J. Baldwin, Amelia J. Heathman, Nannie T. Jackson, Sarah J. Riddles, Annie V. Smith, Caroline H. Thomas, Martha Liggons, Rosa Johnson, Hattie V. Lee, Josephine E. Walker, Sarah E. Ratcliffe, Eliza C. Davis.

The relations that have existed between the schools of these two divisions and the trustees of the Miner Fund since 1879-'80 were in fulfillment of the notice previously given, as required by the terms of agreement, terminated at the close of the school year. During this period the school has specially trained for the teacherships of these schools 136 teachers, of whom 96 are members of the present corps. Through this special training there has been given to the teacherships a degree of efficiency that has aided most materially in the growth and progress of the schools.

MANUAL TRAINING.

In the month of April a school of carpentry, in which to teach the use of tools, was organized in a small basement room of the Miner Building. The enrollment in this school embraced all the boys in the High School, and boys selected from the eighth, seventh, and sixth grade schools. The whole number enrolled was 144. The boys were formed into classes of six each. Each class received weekly one hour of instruction. In this short diversion no unfavorable effect was perceived upon the character of the usual work of the school room. The eagerness on the part of the boys to avail themselves of the opportunity for such instruction and the earnestness evinced in their prosecution of it were strong of promise for the future. I am more strongly of the opinion that the introduction of the industrial feature into our system will not only yield benefit, in its practical bearing, but also, from the expectancy of opportunity to secure the practical, in the longer retention of boys in the school.

From the meagerness of provision, instruction of this character was necessarily very limited. It is to be hoped, however, that in the greater provision of manual training for the boys promised for the current school year, with the establishment of schools of cookery for the girls, the feasibility as well as practicalness of instruction on this line will be sufficiently developed to insure in the near future provision of this character commensurate with the needs of the masses.

Another department should be added in the introduction of sewing. Its practicalness admits of no question. With use coextensive with the household its benefits will be far-reaching. In its less expenditure for teaching force and means, in proportion to the number of pupils embraced, it strongly recommends itself.

NIGHT SCHOOLS.

Three night schools were opened, one at the Sumner, one at the John F. Cook, and one at the Lincoln Building. To each school was a corps of four teachers, a principal and three assistants to each corps.

In the admissions of pupils preference was given to those of the legal school ages whose circumstances were such as to prevent attendance at the day schools. The number of applicants for admission was largely in excess of the accommodation offered. The average number enrolled was 467, and the average nightly attendance 378. They were classified from the first to the eighth grade, both inclusive.

The term of instruction embraced fifty-two evenings or sessions, each session lasting 2 hours.

The entire expenditure for these schools was \$1,248. The cost per capita for instruction, based on the average number enrolled, was \$2.56.

TEACHERS.

The whole number of teachers employed during the year was 182—170 females and 12 males. Of this number 170 were in schools from the first to the eighth grade, inclusive; 8 in the High School, 1 in the manual training school, 1 in charge of drawing, and 2 in charge of vocal music.

As in past years, the benefits of experience in teaching were secured by the retention of most of the teachers of the previous year. The teacherships made vacant by resignation and those created by the organization of new schools were filled by graduates of the Normal School.

The substitute service was not on the whole satisfactory. The experience of years with regard to this service forcibly suggests that the selection of the substitute teacher should be considered of scarcely less moment than that of the regular teacher. The wider field in the diversity of grades in which the substitute may be called to teach should, it would seem, require scholastic attainments and a degree of versatility and general ability which, to insure effective effort, would make her, if not the superior, at least the equal of her for whom she may render occasional service. The records of the year show that the absence of teachers aggregated 501 days. This aggregate was made by 77 teachers, who represented grades of schools from the first to the eighth, inclusive. The periods of absence varied from one-half day to thirty-five days, and the average number of days' absence to the teacher was six and one-half.

Taking the number of teachers who were absent, and the average number of pupils to the teacher for the year on the average enrollment, and it may be shown that 3,773 pupils were affected by this absence. The degree of affection varied, of course, with the degree of fitness brought by the substitute teacher to the work.

To maintain efficient condition of the school during the absence of the regular teacher too great care and judgment can not be exercised in the selection of the substitute. And to secure and retain competent substitute service, compensation for it must not be disproportionately less than that for regular service.

STATISTICAL SUMMARY.

For convenient reference to the more important statistics, I present the following :

	Grammar and primary.	High School.	Total.
Number of pupils enrolled.....	10,069	276	10,345
Average number of pupils enrolled.....	8,215	233	8,448
Average number of pupils in daily attendance.....	7,738	218	7,956
Percentage of attendance.....	94.2	93.3	91.2
Average number of tardinesses per month.....	329.7	4.8	334.5
Number of pupils dismissed.....	4		4
Number of cases of corporal punishment.....	110		110
Number of teachers employed.....	168	8	176
Average salary paid to the teacher.....	\$575.49	\$1,125.00	\$600.47
Average number of pupils to the teacher (estimated on the average enrollment).....	49	29	48
Cost of tuition per pupil (estimated on the average enrollment).....	\$11.77	\$38.62	\$12.51

SPECIAL TEACHERS.

	Number of teachers.	Salary paid.	Average salary paid.	Cost of special tuition es- timated on aver- age en- rollment.
Drawing.....	1	\$1,100	\$1,100	\$0.18
Music.....	2	1,600	800	.19
Manual training.....	1	400	400	.....

Supervision.

Superintendent.....	\$2,250.00
Supervising principals, two, each \$2,000.....	4,000.00
Clerk to superintendent.....	800.00
Messenger to superintendent.....	200.00
Total cost of supervision.....	7,250.00
Average cost (estimated on the average enrollment).....	.86

CONCLUSION.

So very pressing are the needs of accommodation for the colored school population of Washington and Georgetown, that I can not too often nor earnestly call your attention to it. Records of the current year show, October 31, an enrollment of more than 500 pupils in excess of that for the corresponding period of last year. Of the 10,065 pupils enrolled at that date, 9,711, embracing those in the schools from the first to the eighth grade inclusive, were accommodated in only 122 rooms. More than 5,000 pupils are accommodated in 43 rooms. This very limited accommodation necessitates in many instances a reduction of school session, in the use of one room by two schools, to an extent very adverse to the progress of the pupils. The 16 additional rooms in the Giddings and Magruder buildings will give some relief to those sections in which they are located.

In addition to the absolute want of accommodation, much of that now in use is perniciously educating in its character, as well as exceedingly objectionable in its opposition to all laws of health.

G. F. T. COOK,
Superintendent.

M.

REPORT OF THE CHIEF ENGINEER OF THE FIRE DEPARTMENT.

GENTLEMEN: I have the honor herewith to submit my annual report for the fire department for the fiscal year ending June 30, 1887, giving statement of the alarms of fire, the losses, and insurance during the year, also list of improvements and recommendations needful for the better efficiency of the service.

ENGINE-HOUSES.

There are in use by the department seven engine-houses and two truck-houses, all in good condition, only needing the usual incidental repairs, except engine-houses Nos. 2 and 4. The former is entirely unsuited for the purpose; the house is old and location bad, and the same conditions remain as stated in my former annual report. The latter is also badly arranged. The most serious complaint is in regard to the railroad, which monopolizes the street, the cars standing continuously on the tracks, blocking up the roadway, putting up a fence, etc., leaving only a few yards' space between the latter and the curb. These obstructions are a great impediment, and cause delay to the apparatus in getting out to answer the alarms of fire. I renew my recommendation that this engine-house be moved to a suitable site, either north or south one square, thus obviating the inconveniences and delays which the present obstructions cause.

NEW ENGINE-HOUSE.

I again respectfully renew my recommendation for a new engine-house in the southeastern section of the city, the formation of a new company, and its equipment. An engine company in that section has been much needed for years, and from the rapid improvements that have been and are being made makes it more of a necessity. The increased number of buildings that have been erected in the recent past would naturally make the liabilities to fires more frequent. No. 3 engine company is the only one that is situated east of the Capitol, and the vast and extended territory it is expected to protect prevents rendering as quick assistance in case of fire as is afforded in the more-favored sections. Such engine-house I would suggest be situated at a point somewhere between Wallach school-building and the Navy-Yard market.

NEW TRUCK-HOUSE.

I repeat my recommendation for a double house and new truck company. This company should be located in the center of the city, on account of the hotels, theaters, lumber-yards, and other large establishments in that section. The two truck companies A and B are located in

the center of their respective districts, and are far removed from the business section, and from that can not render such quick and efficient aid in case of fire as may be desired, more especially where lives are endangered. I would recommend a suitable site be purchased in the neighborhood of the present No. 2 engine company and south of Pennsylvania avenue, and the erection of a house that would accommodate engine company No. 2 and the new truck company and its equipments.

RELIEF FUND.

I most earnestly renew my recommendation, as set forth in my previous report, that Congress be petitioned to appropriate a sum to be used for pensioning disabled firemen. At present the fund is inadequate to respond to any further calls upon its resources; the \$1 that is reserved from each officer and man is barely sufficient to pay the two beneficiaries now on the rolls. I must call your special attention to this matter, and hope that some action may be taken and the ways and means provided for those who may at any time meet with an accident which may incapacitate them from further service in or out of this department. Many of the men have been long in the service, and it would entail great hardship to them and their families, after the best portion of their lives had been given to the laborious and hazardous work, to be thrown out of employment with no way to obtain a livelihood.

PAY AND PROMOTIONS.

In regard to the present positions and employes of this department, I deem it advisable for the better efficiency of the service, that the position of acting assistant chiefs be made permanent, and the number of foremen be increased from seven to nine, thus giving each engine and truck company their regular foreman, as two of the companies are in charge of acting foremen only.

That the salaries of the foremen and engineers be increased from \$1,000 to \$1,100 and \$1,050 respectively. There never has been an increase in the pay of these two grades of officers since the organization of this department. The relief fund was created and \$1 per month deducted, without an increase in pay, "as was in the case of the privates."

I also recommend the promotion of nine privates to the rank of assistant foremen, with an increase of salary of \$100 per annum each, in the absence of the foreman. At present a private is detailed to act and assumes all the responsibilities, and it is in my judgment but proper that they should be allowed for their services.

WATCHMEN.

I repeat the request for the provision of two extra watchmen, in addition to the three already employed. There are two privates in the department who have become partly disabled by injuries received, and their long service deserves some recognition, and by appointing them to these positions will to a certain extent reward them for valuable services rendered.

ADDITIONAL PRIVATES.

For the more effectiveness of the department I have the honor to recommend that two additional privates be appointed to each engine company, making 14 in all. The appointment of this additional force I deem essential to fill the requirements of the service.

FIRE PROTECTION FOR MOUNT PLEASANT, ANACOSTIA, AND HOWARD UNIVERSITY.

The lack of water facilities is a great and serious want in case of fire at Mount Pleasant, Anacostia, and in the neighborhood of the Howard University. These sections are being rapidly built upon, and the improvements are mostly of an inflammable nature; should a fire occur in the near future of any magnitude in any of the above sections, it would be utterly impossible to afford any great assistance. I would therefore earnestly recommend that at least two cisterns be located at each of the two sections Mount Pleasant and Anacostia, and one at the latter, and also that they should be included in the fire-alarm circuit.

I also respectfully recommend that the water-mains be extended out Thirty-second street, West Washington, for the distance of four blocks. The rapid improvements in this neighborhood, in my judgment, require this protection.

Also that the water-mains be extended to the locations stated above, viz., Mount Pleasant, Anacostia, Howard University, as soon as practicable.

APPLICATIONS.

For the year 25 applications were received for positions in the department, and 18 were found qualified by the board of surgeons.

RESIGNATIONS.

During the year 8 members of the department resigned, 1 was dropped for disability "not contracted in the service," and 1 dismissed. On the 1st of September Mr. Otto Reinecke, clerk to the department, resigned, and Mr. Smith Thompson, jr., was appointed to fill the vacancy. Charles Merrilatt, acting assistant chief, resigned September 2, 1886. Foreman John F. Maddock was appointed in his place.

PROMOTION.

Acting Assistant Chief John F. Maddox was relieved from that position at his request, and W. T. Belt promoted to acting assistant chief, and the former was restored to the position as foreman of No. 2 engine.

HORSES.

The stock belonging to the department consists of 45 horses. During the year 10 were turned over to the property clerk, 1 was killed, and 9 new ones purchased. They were distributed as follows:

7 engine companies	30
2 truck companies	8
Used by officers	4
Supply wagon	1
1 turned over to Washington Asylum.	1
Pasture	1
1 horse, No. 20, died at No. 1, April 9, 1887.	

VETERINARY SURGEON'S REPORT.

SIR: I herewith hand you report of the condition of the horses belonging to the Fire Department of the District of Columbia. The horses whose condition you will find marked good will last a year or more, those marked fair will, in my opinion,

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be unserviceable in that time, and those marked bad are useless for the requirements of the service. You will find a detailed statement of the number at each engine house.

Respectfully, yours,

ALEX. MCKENZIE,

Veterinary Surgeon Fire Department District of Columbia.

JOSEPH PARRIS, Esq.,

Chief Engineer Fire Department District of Columbia.

Condition of horses.

	Good.	Fair.	Bad.
	Number.	Number.	Number.
Engine company:			
No. 1	51, 1	3, 4	42
No. 2	5	6	7, 8, 15
No. 3		9, 10, 11	12
No. 4	52, 53	45, 23	13, 48
No. 5	32	17	21, 43, 18
No. 6	26	14, 22	24
No. 7	51	28	29, 27, 19
Truck company:			
A	31	33	46, 41
B	34	36	35, 37

APPARATUS.

The apparatus of the department has been increased by the addition of 1 double Amoskeag engine, making 9 in all, 7 of which are in service, and 2 in reserve; 7 are in good condition and 2 only fair.

The hose carriages are 8 in number; 7 in service and 1 in reserve; 5 in good condition and 3 fair.

Three hook and ladder trucks; 2 in service and 1 in reserve; 2 of these are in full working order with all the appliances, 1 is old with no equipments.

One fuel wagon in fair condition; 4 Holloway's fire extinguishers.

One wagon for chief engineer; 1 for each acting assistant chief—in good running order.

EXCHANGE OF ENGINES.

I would most respectfully recommend the exchange of the 2 Clapp & Jones' engines now on hand for 2 of the latest improved pattern, upright, second size, fire engines, and that the sum of \$8,000 be appropriated for the purchase, which is included in estimates.

FIRE PLUGS.

The whole number of fire plugs in the District is only at present about 850, which is totally inadequate for the protection of property from fire in the District. I most respectfully ask that an addition of 1,000 be located in suitable situations, as on an average in the heart of the city our lead of hose is about 700 feet.

HOSE.

There is on hand in the service of the department:

	Feet.
Paragon hose:	
In good condition	6, 250
In fair condition	6, 250
Boston fire jacket:	
In good condition	3, 150
In fair condition	400
Different kinds, bad and unfit for service	2, 850

Turned over to the property clerk during the year 1,650 feet condemned, as of no further use to the department.

There was also purchased during the year for use of the service the following:

	Feet.
New Bay State hose.....	3,050
New Paragon hose.....	900
New Boston fire jacket hose.....	500
New Maltese Brand gum hose.....	50
Total	4,500

Which was distributed as follows :

Engine company—	Paragon.	Bay State.	Boston fire jacket.	Gum.
	Feet.	Feet.	Feet.	Feet.
No. 1.....	50		500	
No. 2.....	550			50
No. 3.....		700		
No. 4.....		700		
No. 5.....		700		
No. 6.....	300	250		
No. 7.....		700		
Total	900	3,050	500	50

Hose on hand end of fiscal year ending June 30, 1887.

Engine company—	Good.	Fair.	Bad.
	Feet.	Feet.	Feet.
No. 1.....	1,300	750	500
No. 2.....	800	1,000	500
No. 3.....	1,600	1,400	70
No. 4.....	1,200	1,400	450
No. 5.....	1,600	500	750
No. 6.....	2,000	250	350
No. 7.....	950	2,000	200
Total	9,450	7,300	2,820

The greater majority of hose marked fair will only last for a short time, and should there be any great urgency for its use, it could not be depended on. As this is one of the greatest essentials in case of fire, I deem it my duty to call your attention to the fact.

Each company, in my judgment, should have at least 2,500 feet of good hose that could be relied on when needed, and I respectfully ask that an appropriation adequate to this need be made.

EXPENDITURES.

The expenditures for this department, as shown by the books of the auditor of the District of Columbia for the fiscal year ending June 30, 1887, were as follows:

Salaries.....	\$85,413.49
Repairs to engine houses	2,985.07
Repairs to apparatus, new appliances and hose.....	3,663.24
Fuel.....	1,427.00
Purchase of horses.....	2,450.00
Forage	3,834.21
Contingent expenses.....	6,102.12
New engine.....	4,496.50
Total.....	110,771.63

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Salaries of officers and employes.

Officers and employes.	No.	Salary per annum.
Chief engineer.....	1	\$1,800.00
Foremen acting chief engineer.....	2	1,200.00
Fire marshal.....	1	1,000.00
Clerk.....	1	900.00
Foremen.....	7	1,000.00
Privates acting foremen.....	2	800.00
Engineers of steamers.....	7	1,000.00
Tillermen.....	2	840.00
Hostlers.....	9	840.00
Firemen.....	7	840.00
Privates.....	58	800.00
Watchmen.....	3	600.00
Veterinary surgeon.....	1	400.00
Total.....	101	

Designation and location of engine and truck houses.

	Location.
Engine company:	
No. 1.....	K street, between Sixteenth and Seventeenth, northwest.
No. 2.....	D street, between Twelfth and Thirteenth, northwest.
No. 3.....	Delaware avenue and C street, northeast.
No. 4.....	Virginia avenue, between Four-and-a-half and Sixth, southwest.
No. 5.....	M street, between Thirty-first and Potomac, West Washington.
No. 6.....	Massachusetts avenue, between Fourth and Fifth, northwest.
No. 7.....	R street, between Ninth and Tenth, northwest.
Truck company:	
A.....	North Capitol, between B and C streets, northeast.
B.....	New Hampshire avenue and M street, northwest.

Herewith is submitted the report of Fire Marshal William O. Drew, and attention is called to the part relating to storage and sale of inferior and low-grade illuminating oils.

Also, detailed statement of fires, losses, and insurance for the year ending June 30, 1887. There were 186 alarms of fire and 65 local alarms; the loss entailed was \$298,639, covered by an insurance of \$241,164, against a loss of \$240,480, and covered by insurance of \$170,386, of the previous fiscal year.

Tables marked A, B, and C give the number of fires, losses, and insurance, also the cause of fires and the kind of buildings in which the fires originated for the year ending June 30, 1887.

A.—Number of fires, loss, and insurance for the year ending June 30, 1887.

Month.	Fires for which alarms were given.			Local alarms.		
	No. of Fires.	Loss.	Insurance.	No. of Fires.	Loss.	Insurance.
1886.						
July.....	4	\$45,400	\$45,400	1		
August.....	6	1,800	1,400	1	\$10	
September.....	7	1,725	700	2		
October.....	17	40,625	27,380	4		
November.....	21	5,060	3,260	6	25	\$25
December.....	21	112,543	93,368	5	150	
1887.						
January.....	30	48,720	30,410	13	105	65
February.....	12	2,726	1,986	8	15	15
March.....	15	2,690	2,525	8	45	10
April.....	18	11,620	11,125	6	125	120
May.....	16	270	135	6	5,180	5,160
June.....	19	19,095	17,980	5	700	100
Total.....	186	292,274	235,669	65	6,365	5,495

In May, 1887, the unusual loss on local alarm was caused by the burning of Doctor Baldwin's house at Mount Pleasant. The department responded promptly, but was of little service on account of the difficulty of getting a supply of water.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 313

B.—Record showing cause of fires and alarms for the year ending June 30, 1887.

Cause.	Number.	Cause.	Number.
Fire-crackers	2	Christmas tree	2
Incendiaries	37	Waste paper	1
Electric-light wire	8	Lamp explosion	8
Accident	25	Latrebe stove	7
Carelessness	11	Defective hearth	1
Chimney	21	Children playing with matches	9
Stove pipe	6	Tinner's pot	2
Unknown	10	Sparks	3
Escaping steam	2	Defective building	1
Spontaneous combustion	6	Wood fire-board	1
Defective flue	24	Breaking lamp	1
Stove	12	Bursting barrel gasoline	1
Benzine	1	Mistake of operator	2
Sparks from chimney	2	Gasoline explosion	2
Lamp explosions	3	Boys smoking cigarettes	1
Cigar stump	1	Sparks from locomotive	1
Furnace	4	Upsetting lamp	1
Defective stove pipe	1	Burning leaves	1
Rats, matches	2	Ash pile	1
Gas jet	2	Gas-meter	1
False alarm	13	Smoky stove	1
Hot ashes	9	Defective pipe	1
Tar kettle	2	Fire-works	1
Oil-stove explosion	1	Burning waste	1

C.—Kind of buildings where the fires originated.

Building.	Frame.	Brick.	Total.	Building.	Frame.	Brick.	Total.
Dwelling	55	76	131	Hot-house	1	.....	1
Clothing store	1	3	4	School-house .....	.....	1	1
Wholesale grocery .....	.....	1	1	United States Capitol .....	.....	.....	1
Stables	14	4	18	Furniture store .....	.....	1	1
Stove stores	2	.....	2	Fruit store .....	.....	1	1
Soap factories	1	.....	1	Dispensary .....	.....	1	1
Planing mills	1	4	5	Wood and coal yard	1	.....	1
Dry-good stores .....	.....	6	6	Offices	1	.....	2
Feed store	1	.....	1	Tin and paint shop	1	.....	1
Tailoring establishment .....	.....	1	1	Provision store .....	.....	1	1
Restaurant	1	1	2	Harness shop	1	.....	1
Grocery	2	3	5	Lumber yard .....	.....	.....	1
Public hall .....	.....	1	1	Oil tank .....	.....	.....	1
Store and office	1	.....	1	Variety store	1	1	2
Pool-rooms	2	.....	2	Bureau of Engraving and	.....	.....	.....
Sheds	7	.....	7	Printing	1	.....	1
Pawnbrokers .....	.....	1	1	Depot .....	.....	1	1
Junk store .....	.....	1	1	Aged Woman's Home .....	.....	1	1
Hotel .....	.....	3	3	Blacksmith shop	1	.....	1
Dentist .....	.....	1	1	Dime Museum .....	.....	1	1
Theaters .....	.....	2	2	Interior Department .....	.....	.....	1
Printing office .....	.....	1	1	Jeweler store .....	.....	1	1
Sutler's store	1	.....	1	Private school .....	.....	1	1
Old passenger car	1	.....	1	Hat store .....	.....	1	1
Confectionery store .....	.....	1	1	Locomotive cab	1	.....	1
Government Printing Office		1	1	Bakery	1		1
Spontaneous combustion		1	1	Drill grounds	1		1
Saw-mill	1		1				

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D.—Statement of the number of alarms, working hours of engines, feet hose laid, ladders raised, etc.

Companies.	First alarms.	Second alarms.	Special alarms.	General alarms.	Hours engines worked.	Local alarms.	Hose laid.	Hose bursted.	Ladders raised.	Times extin- guisher used.	Transfers made.
Engine company:					<i>h. m.</i>		<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>		
No. 1	99	1	.....	4	40 20	17	15,600	550	.....	.....	.....
No. 2	64	2	.....	3	46 53	30	14,750	350	42	.....	.....
No. 3	76	.....	.....	2	30 35	3	12,750	200	.....	.....	.....
No. 4	62	3	.....	3	37 45	14	17,550	.....	.....	.....	.....
No. 5	46	.....	.....	6	21 05	8	8,550	150	.....	.....	1
No. 6	96	2	1	3	51 00	8	20,050	.....	.....	.....	.....
No. 7	93	2	1	5	31 10	7	13,650	.....	.....	.....	14
Truck company:											
A	99	1	.....	2	.....	2	.....	.....	1,381	6	.....
B	85	2	.....	2	.....	7	.....	.....	1,535	5	.....

E.—Total number of alarms, etc., during the year ending June 30, 1887.

[Engines worked 258 hours 48 minutes.]

Responded to—	
Fire alarms	186
Local alarms	65
Hose laid	feet 102,900
Hose bursted	do 1,250
Ladders raised	do 2,958
Number of times extinguisher used	11

In conclusion, we congratulate our citizens for having been exempt from any large conflagrations, such as have occurred in some of our large cities. The fires that have taken place have mostly been confined to the building in which the fire originated. Considering the distances that separate the several fire-companies, and the area they have to travel to reach the fire, it speaks well for the efficiency and promptness of the department, and, in my opinion, a comparison of the work done will compare favorably with other fire-departments in any city of equal size.

To your honorable body I return my earnest thanks. The many recommendations I have made have always met your generous and courteous co-operation, and it has been the pleasure of the chief of this department to merit your approbation, and to bring this department to that degree of perfection that is expected of it from your honorable body as well as the community generally. The latter, I have every reason to believe, appreciates the service, judging from the many encomiums received, and the substantial manner in which they have responded whenever an occasion offered for their benevolence to be manifested.

To my assistant chiefs, the officers of the several companies, and to the members of the department my thanks are due for the promptness and energy displayed in the discharge of their duties. To this fact is due the successful operations of the department.

I also tender my acknowledgments to the major of police, superintendents, and members; to the superintendent of the fire-alarm and telephone service, and the operators connected with the office, for their efficient aid and courtesies.

Very respectfully, your obedient servant,

JOSEPH PARRIS,
Chief Engineer Fire Department.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

M 1.—INVENTORY OF COMPANIES.

[Stock and fixtures of the companies to July 1, 1887.]

GENTLEMEN: I most respectfully submit a list of the property of the several engine and truck companies to the 1st of July, 1887.

Respectfully.

JOSEPH PARRIS,
Chief Engineer Fire Department.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

ENGINE COMPANY No. 1.

One two-story brick house, with hose-tower and stable, located on K street, between Sixteenth and Seventeenth streets northwest, with heater-house and hose-tower attached.

ENGINEER DEPARTMENT.

1 double-pump Amoskeag engine, good condition.	1 screw-driver.
1 Bashor patent heater-pipes, good condition.	1 pair dividers.
20 feet suction-hose, good condition.	1 pair calipers.
1 strainer for suction, good condition.	3 pair gas-tongs.
1 tool-box on engine, with necessities.	8 drills and brace.
1 Prunty patent relief-valve, good condition.	20 feet steam-hose.
1 patent "Campbell" engine-lighter, good condition.	8 gallons oil.
2 brass lanterns, good condition.	8 tons red-ash coal.
2 monkey-wrenches.	6 tons engine coal.
1 jack-screw.	2 nickel lanterns.
2 shovels.	2 play-pipes and nozzles.
1 slice-bar.	6 feet extra suction.
2 oil-cans.	2 extra wheels.
1 plug-thawer.	2 wheels, poles, and doubletrees.
6 files.	4 extra sight-gauges.
6 chisels.	1 Owen coupling.
2 plug-keys.	1 gum goose-neck.
1 old vise.	1 extra grate for engine.
2 hammers.	1 grate for extra engine.
2 pair pliers.	2 grates for heaters.
$\frac{1}{2}$ barrel coal-oil.	1 hack-saw.
1 gum bucket.	1 lead bar.
1 flue-brush.	1 sponge.
	1 chamois-skin.
	1 ax.
	1 scoop-shovel.

HOSE-CARRIAGE DEPARTMENT.

1 4-wheel hose-carriage, fair.	5 assorted straps.
200 feet life-line.	2 bit-snaps.
100 feet picket-line.	2 rein-snaps.
24-foot ladder.	1 extra trace.
2 Johnson's force-pumps.	1 pole-snap.
3 pick-axes.	1 gum bucket.
1 scabbard and belt.	3 ladder-straps.
1 Prunty cut-off nozzle.	50 feet garden hose.
1 Ashworth cut-off nozzle.	1 patent jack-screw and wrench.
8 tips for nozzle.	50 feet rope and block.
2 covered copper pipes.	1 stove.
1 patent ladder-clamp.	4 old hose-carriage wheels.
2 Wonder fire-escapes.	1 canvas apron.
8 plug-keys.	1 cotton duster.
2 reducers.	1 extra pole.
6 hose-spanners.	1 pair lead bars.
1 ceiling-hook.	1 long wooden pipe-holder.
1 wooden pipe-holder.	3 old nozzles.
1 leather pipe-holder.	1 old monkey-wrench.
30 feet extra rope.	1 oil-can.
1 crowbar.	2 pieces sponge.
1 Deitz No. 0 reflector.	2 chamois-skins.

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HOSTLERS' DEPARTMENT.

3 horses, good condition.	500 each hay and straw.
1 horse, bad condition.	5 bushels forage.
1 horse, sick.	3 horse-buckets.
2 double sets swinging harness.	4 Silsby pole-snaps.
2 double sets swinging harness, extra.	2 saddles, bad.
1 old breast-collar.	1 saddle, good.
4 sets extra reins, good.	8 halter-steins.
2 long-handle pitchforks, good.	6 hitching-straps.
2 scoop-shovels, good.	4 extra bridles, good.
1 plain shovel, good.	4 extra bridles, bad.
3 brooms.	8 traces, good.
1 pair horse-clippers, bad.	4 pole-straps, good.
1 pair scissors.	4 linen horse-covers.
2 mane-brushes, fair.	1 block and fall, 50 feet rope.
2 horse-brushes, fair.	2 whips.
2 curry-combs, fair.	1 platform scales.
2 rubbing-cloths, fair.	8 old snaps.
2 net rubbing-cloths, fair.	2 pole-snaps.
4 horse-blankets, good.	1 feed-box.
4 horse-blankets, fair.	3 pieces sponge.
1 old cutting-box.	2 horse-scrapers.
25 bushels oats.	2 pairs driving-gloves.

HOUSE DEPARTMENT.

1 alarm-gong.	1 table and cover.
Apparatus from for releasing horses from stall.	3 tables.
2 good carpets, 1 bad.	1 book-case.
10 iron bedsteads.	2 rugs.
20 bed-spreads.	9 window-shades.
25 sheets.	1 old lounge.
25 pillow-slips.	1 writing-desk.
12 towels.	1 set books, ink, etc.
10 hair mattresses.	1 telephone.
18 spittoons.	1 water-cooler.
12 cane-seat chairs.	1 stove, etc.
12 wooden-bottom arm-chairs.	1 plug-mop.
22 double blankets.	1 coal hod and shovel.
28 double blankets, bad.	2 floor-mops, stove-brush.
12 feather pillows.	2 tin cups.
1 stair oil-cloth, bad.	1 copper boiler.
1 feather duster.	10 alarm-keys.
2 pans, 2 brushes.	5 night keys.
Hair-brush, combs, and soap-dish.	2 whitewash-brushes.
3 looking-glasses.	10 bound Rules and Regulations.
3 door-mats.	3 benches.
1 step ladder.	1 bath-tub, etc.
3 water-buckets.	1 local gong.
22 stair-rods.	2 straps and snaps.
3 brooms.	2 floor-brushes.
2 clocks.	4 sponges.
	2 chamois-skins.

STORE-ROOM DEPARTMENT.

10 pounds cotton-waste.	1 small shovel.
5 pounds rotten-stone.	5 chamois-skins.
1 globe-lamp.	$\frac{1}{2}$ gallon arnica.
4 papers stove-polish.	10 papers kalsomine.
6 hose-spanners.	1 stove-brush.
24 papers Tripoli.	2 papers tacks.
1 harness-punch.	1 pound copper rivets.
2 currycombs.	2 pounds brads.
48 sheets emery paper.	2 gross screws.
2 bits.	12 boxes blacking.
2 dust-pans.	2 boxes polish.
1 pick-ax.	7 rein-snaps.

STORE-ROOM DEPARTMENT—continued.

8 bit-snaps.
 26 cakes soap.
 6 cakes soap.
 2 net rubbing cloths.
 3 horse-brushes.
 1 blacking-brush.
 3 curry-combs.
 1 mane brush.
 2 cans harness-oil.
 2 cans harness-dressing.
 2 cotton mops.
 2 horse-scrapers.
 12 corn brooms.
 4 pounds axle-grease.
 3 pounds sponge.
 6 — inch straps.
 3 bit-straps.
 3 feet hose for pump.
 18 pounds nails.

2 pounds sash-cord.
 1 pound whiting.
 2 pounds oxalic acid.
 3 pounds vasaline.
 2 horse-buckets.
 2 gum buckets.
 2 scoop-shovels.
 1 pitchfork.
 3 ladders, 10, 12, and 16 feet.
 3 carpenter's planes.
 1 saw, hatchet, and square.
 1 grindstone.
 1 old stove.
 1 wheelbarrow.
 4 old lamps.
 3 brushes.
 1 water-cooler.
 2 iron bedsteads.

Members of No. 1 Engine Company.

Name.	Position.	Age.	Occupation.	Residence.
Charles S. Boss	Acting foreman ..	36	Laborer	1926 K street northwest.
William A. Shedd	Engineer	45	Machinist	2204 I street northwest.
William French	Fireman	44	Laborer	2402 K street northwest.
Samuel E. Edwards.....	Hostler	40	Blacksmith	2202 I street northwest.
John A. Welsh	Private	28	Brickmaker.....	1117½ Nineteenth street north-west.
James Kenney.....	do	32	Butcher.....	1131 Eighteenth street north-west.
John B. Clark	do	30	Carpenter.....	1133 Eighteenth street north-west.
William H. Bradekamp.....	do	33	Laborer.....	1215 New Hampshire avenue.
O. T. Sturgis.....	do	67	do	3214 Grace street northwest.
Samuel E. Mastin.....	do	31	Plasterer.....	1700 Cresson street.

ENGINE COMPANY No. 2.

One 2-story brick house, located on D street, near Twelfth northwest, with stable and hose-tower attached.

ENGINEER DEPARTMENT.

1 double Clapp & Jones engine.
 1 Prunty heater.
 4 extra wheels, fair.
 3 monkey-wrenches.
 3 stuffing-box wrenches.
 1 15-foot gum suction-sleeve.
 1 9-foot canvas suction-sleeve.
 1 Campbell lighter for engine.
 1 jack-screw.
 3 pounds engine packing.
 2 hammers and cold-chisel.
 1 pole and single-tree.
 2 pounds waste.
 2 dozen sheets emery cloth.
 2 brass pipes, 4 nozzles.
 1 old vise.
 2 pounds oxalic acid.
 2 dozen papers Tripoli.

1 pair heater-cocks.
 1 pair globe-valves, old.
 2 flue-brushes.
 10 feet gum hose.
 20 feet gum hose.
 2 tons splint coal.
 3 blind caps.
 2 reducers.
 3 tons heater coal.
 1 injector for engine.
 1 gum bucket.
 1 gum suction-sleeve, old.
 1 washer-cutter.
 1 shovel and slice-bar.
 2 plug-keys.
 30 feet street-hose.
 1 Owens hose-connector.

HOSE DEPARTMENT.

1 4-wheel hose-carriage.	200 feet life-line.
4 old wheels.	1 extra single-tree.
1 pole and single-tree.	1 small ax.
2 axes.	1 extension ladder, 23 feet.
2 leather straps for ladder.	2 Brooks patent fire-escapes.
2 patent hose-holders.	1 tubular reflecting-lamp.
2 pipe-holders.	2 brass lamps.
1 brass reducer.	2 brass lamps, old.
1 Ashworth nozzle.	1 pair hose-carriage shafts.
1 Prunty cut-off nozzle.	2 sets double bars and single-tree.
1 gum bucket.	6 nozzle-tips.
2 Johnson's pumps.	1 auger, saw, and crow-bar.
1 3-way siamese.	1 snap for releasing carriage.
2 tips, siamese.	1 plaster hook.
1 Bresnan hose hoister, 100 feet rope.	10 hose-spanners.
2 metal play-pipes.	1 jack.

HOSTLERS' DEPARTMENT.

5 horses, fair condition.	1 patent oats-cleaner.
2 sets double harness.	1 water-bucket.
Complete engine and hose-carriage sets, with swinging hames attached.	1 shovel.
2 extra sets double harness.	3 pitchforks.
1 set double harness, old.	4 iron troughs.
8 halter-stems.	4 patent springs for traces.
2 saddles.	2 curry-combs.
3 pair clipping-machines.	2 brass scrapers.
5 bridles, good.	8 Bullwinkle snaps.
4 bridles, bad.	25 bushels oats.
4 choke-straps.	300 pounds hay.
3 collar pads.	300 pounds straw.
3 pairs pole-straps, bad.	150 pounds bran.
1 pole-chain and snaps.	Meal, salt, etc.
4 pairs blankets.	4 whips.
3 pairs hitching-straps.	4 blankets.

STORE-ROOM.

25 sheets.	10 pounds sheet gum.
25 pillow-slips.	2 sheets asbestos.
10 towels.	2 scrubbing-brushes.
12 bed spreads.	2 lamp-globes.
1 mat.	3 pounds carbolic acid.
6 brooms.	10 cotton mops.
1 curry-comb and brush.	1 coal-hod and shovel.
15 pounds castile soap.	2 old collars.
2 dozen toilet soap.	3 cans harness dressing.
10 pounds brown soap.	200 feet heater-wire.
2 pounds sponge.	2 funnels.
2 axes, hatchet, and saw.	1 10-foot ladder.
2 hanks cord.	1 3-foot ladder.
1 feather-duster.	1 wheelbarrow.
1 comb.	1 pair scales.
3 chamois-skins.	1 stove.
50 pounds white lead.	$\frac{1}{2}$ barrel coal-oil.
1 brace.	

HOUSE DEPARTMENT.

10 iron bedsteads.	35 sheets.
10 mattresses.	32 spreads.
10 mattresses, bad.	19 towels.
10 mattresses, bad.	10 feather pillows.
1 carpet.	12 spittoons.
1 book-case.	38 blankets.
2 looking-glasses.	Schneider's improved method of releasing horses from stalls.
1 writing-desk.	1 alarm-gong.
1 round table.	2 clocks.
30 arm-chairs.	
1 bath-tub, etc.	

Members engine company No. 2.

Name.	Position.	Age.	Occupation.	Residence.
John F. Maddox.....	Foreman.....	50	Wheelwright.....	475 I street northwest.
James Moriarty.....	Engineer.....	47	Machinist.....	2013 K street northwest.
William Leeman.....	Fireman.....	50	do.....	445 6½ street southwest.
Frank Jacobs.....	Hostler.....	34	Driver.....	1433 Ohio avenue northwest.
Joseph Lenman.....	Private.....	30	Blacksmith.....	934 I street northwest.
Rudolph Ball.....	do.....	38	Undertaker.....	1111 F street northwest.
William Mahoney.....	do.....	39	Laborer.....	2015 Thirty-fifth street north-west.
William Doleman.....	do.....	28	do.....	301 Thirteenth street south-west.
Henry Smart.....	do.....	22	do.....	1202 E street northwest.
Charles R. Kuhns.....	do.....	23	Butcher.....	307 Virginia avenue south west.

ENGINE COMPANY No. 3.

ENGINEER DEPARTMENT.

1 fourth-class Clapp & Jones engine, with 3 sleeve-protectors, 1 new sleeve.	1 set cut-off valves, bad.
1 Prunty relief valve.	5 oil-cans, bad.
1 set Prunty cut-off valves.	2 chamois-skins.
2 monkey-wrenches.	1 jack-screw.
4 assorted wrenches.	10 feet steam-hose.
2 spanners.	2 tons coal.
2 fenders for wheels.	1 set lead bars.
1 hose-spanner.	1 gallon lard-oil.
1 pair tongs.	2 blind caps.
1 ax.	2 hand lanterns, old.
1 shovel.	2 squirt-cans.
1 slice-bar.	2 side lamps, engine.
1 vise and bench.	2 hand lanterns, new.
	1 Prunty heater, old.

HOSE-CARRIAGE DEPARTMENT.

1 two-horse hose-carriage, fair.	1 Little Wonder fire-escape.
1 telephone.	11 alarm-keys.
1 alarm-gong.	2 hand lanterns.
1 call-gong.	2 stoves and pipe, old.
1 ax.	2 door-mats and 2 mops, old.
1 hatchet.	2 plug-reducers.
1 hose-jacket.	1 16-foot ladder.
1 jack-screw.	2 chamois-skins.
2 reducers.	2 sponges.
4 6-foot ladders.	4 hose-spanners.
1 Prunty cut-off nozzle.	2 single-trees.
1 Prunty cut-off nozzle.	2 wheels for old carriage, old.
3 nozzles and 2 tips.	1 wrench.
190 feet life and picket rope.	1 plaster-hook.
2 plug keys.	

HOSTLERS' DEPARTMENT.

4 horses, one poor condition.	1 horse-brush.
4 sets swinging harness.	1 curry-comb.
2 sets old harness.	2 horse-scrapers.
4 bridles.	1 mane-brush.
4 extra collars, harness, and traces, bad.	1 harness-punch.
4 halter-straps, old.	1 shovel; 1 pitchfork.
4 pole-snaps and snaps.	1 broom.
2 hitching-straps, old.	2 pieces sponge.
4 extra pole-straps, old.	1 wheelbarrow.
1 riding-saddle.	2 pieces soap.
1 extra bridle, old.	1 feed-bin, 3 apartments.
1 breast-collar.	15 bushels oats.
1 pair clippers, old.	1,000 pounds hay.
2 whips; 1 collar, old,	900 pounds straw.
8 horse-blankets.	2 horse-buckets.
4 neck-blankets.	1 wheelbarrow.

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HOUSE DEPARTMENT.

1 large bell.	11 spittoons, old.
11 iron bedsteads.	3 spittoons, old.
12 hair mattresses, old.	4 spittoons, old.
11 feather pillows.	1 clock.
22 bed-spreads, old.	4 door-mats, old.
22 blankets, old.	3 carpets, worthless.
4 sheets.	10 curtains, old.
22 sheets, old.	1 looking-glass.
5 pillow slips.	1 bucket.
15 pillow slips, old.	1 platform scales.
4 towels.	1 feather duster.
6 towels, old.	1 dust pan and brush.
12 arm-chairs, old.	1 broom.
1 writing-desk.	1 chamois skin.
1 table, large.	2 hair brushes and combs.
1 center table.	23 brass stair-rods.

STORE DEPARTMENT.

15 sheets.	1 feather duster.
15 pillow-slips.	6 boxes blacking.
3 towels.	Lot old harness.
4 brooms.	$\frac{1}{2}$ dozen snaps.
5 bridles.	Lot old nozzles.
2 curry-combs.	1 old gong.
10 cakes White blacking.	Lot steam hose.
1 door-mat.	1 Owens coupling.
1 shovel.	1 hatchet.
5 lamp-shades.	2 old lamps.
5 mops.	1 new patent spray-nozzle.
1 sponge.	1 Owens hose-connection.
1 gum pipe.	Lot old sleeve, rags, etc.

Members Engine Company No. 3.

Name.	Position.	Age.	Occupation.	Residence.
James Frazier	Foreman	46	Mariner	1001 Maryland avenue, north-east.
Walter Cox.....	Engineer	40	Carpenter	222 Delaware avenue, north-east.
William Kirkpatrick ..	Fireman	40	do	335 First street, northeast.
Michael Kane	Hostler	40	Hostler	317 B street, northeast.
Joseph Guy	Private	38	Carpenter	744 Seventh street, northeast.
James Nolan	do	37	Plasterer	239 North Capitol street.
George Bohlayer	do	29	Painter	622 E street, southeast.
Harry Thomas	do	29	do	127 E street, northeast.
George Maguire	do	33	Fireman	411 Fifth street, northeast.
Richard McGrath	do	27	Laborer	26 H street, northeast.

ENGINE COMPANY No. 4.

ENGINEER'S DEPARTMENT.

One two-story brick house, with stable and hose-tower attached, located on Virginia avenue, between Four-and-a-half and Sixth streets, southwest.

1 third-class Silsby engine	1 wrench.
1 Prunty heater, bad.	1 screw-driver.
10 feet steam hose.	3 hammers.
1 shovel.	1 reducer.
2 reflecting lamps.	20 feet rope.
1 nickle lamp.	6 oil-cans.
4 suction sleeve spanners.	1 Prunty relief valve.
2 hose spanners.	1 slice bar.
3 wrenches, "packing "	2 leather bell straps.

ENGINEER'S DEPARTMENT—continued.

1 bucket.	1 pair gas pliers.
1 gum bucket.	1 pipe wrench.
1 extra engine pole.	1 brace.
1 extra engine wheel.	1 pair calipers.
2 coal-hods.	1 packing hook.
2 funnels.	1 chisel.
2 drip-pans.	1 pair snips.
1 pipe stock.	1 washer cutter.
1 pipe cutter.	1 bench vise.
1 pipe vise.	4 wrenches.
1 extension wrench.	1 force-pump.
4 straight wrench.	1 pair scissors.
1 ratchet drill.	1 pair wire pliers.
1 brace drill.	1 stove shovel and brush.

HOSE DEPARTMENT.

1 hose carriage.	1 brass lantern.
1 gum pipe.	1 reflecting lamp.
2 hose straps.	2 Johnson pumps.
1 spool strap.	1 pipe holder.
100 feet life line.	3 hose spanners.
1 reamer.	4 ladder straps.
3 Little Wonder fire-escapes.	3 pick-axes.
1 gum bucket,	2 discharge pipes.
2 jack-screws.	1 spool snap.
1 extra pole.	200 feet picket line.
4 hose clamps.	2 aprons.
2 oak buckets.	2 extra wheels.
4 plug keys.	13 box keys.
3 relief keys.	1 lead bar.

HOSTLER'S DEPARTMENT.

4 horses, good.	4 traces.
4 horses, fair.	1 wooden shovel.
2 sets swinging harness.	2 sets single harness.
2 sets swinging harness, old.	12 horse-blankets.
5 old bridles.	2 oak buckets.
3 pitchforks.	1 pair clippers.
4 linen hose-covers.	2 scrapers.
8 Bullwinkle snaps.	1 shovel.
4 gum blankets.	5 hitching straps.
8 saddle-pads.	4 trace-tugs.
6 pole-straps.	2 pad-saddles.
2 whips.	4 bit-straps.
5 head-stalls.	6 pole-snaps.
4 halters.	20 feet gum hose.
1 platform scale.	2 bridle-bits.

HOUSE DEPARTMENT.

12 towels.	33 pillow-cases.
40 bed-sheets.	24 arm-chairs.
33 blankets.	13 gum spittoons.
24 bed-spreads.	5 door-mats.
1 writing-desk.	1 extension-table.
1 book-case.	3 old carpets.
21 stair-rods.	11 hair mattresses.
21 bedsteads.	11 shuck mattresses.
3 stoves.	2 clocks.
1 alarm-gong.	2 washstands.
1 drill-gong.	3 looking-glasses.
1 brass sliding pole.	10 window-shades.
1 water-cooler and stand.	1 feather duster.

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MISCELLANEOUS.

1 fuel-wagon, fair.	2 engine-wheels.
5 old ladders.	2 old carriage-wheels.
1 old suction-sleeve.	

STORE-ROOM.

1 dozen common brooms.	10 hoze-rings.
1 dozen toilet soap.	2 planes, hatchet, and saw.
1 hank cord.	1 ax.
1 dozen Babbit's soap.	1 dozen papers tripoli.
2 bars castile soap.	1 dozen mops.
3 mop-handles.	15 pounds waste.
1 gallon arnica.	1 coal-hod.
3 paint-brushes.	1 oak bucket.
12 old brass nozzles.	

Members of No. 4 Engine Company.

Name.	Position.	Age.	Occupation.	Residence.
William T. Sorrell ..	Foreman	52	Mariner	412 Twelfth street southwest.
Francis Donnelly	Engineer	42	Pattern-maker	468 E street southwest.
Henry Lambert	Fireman	31	Mariner	328 H street southwest.
John F. Waldron	Hostler	43	Laborer	343 D street southwest.
William W. White	Private	46	Brick-maker	218 Willow Tree.
Robert Dickson	do	32	Laborer	205 Virginia avenue southwest.
Charles Mead	do	46	Carpenter	467 I street northwest.
Charles F. Burk	do	35	Laborer	614 Sixth street southwest.
John W. Sorrell	do	29	do	458 Six-and-a-half street southwest.
Francis Mulhall	do	26	Painter	211 Virginia avenue southwest.
James Kehler	do	29	Carpenter	460 Virginia avenue southwest.

ENGINE COMPANY NO. 5.

One brick three-story building, with hose-tower attached, located at 3210 M street northwest.

ENGINEER DEPARTMENT.

1 fourth-class Clapp & Jones engine, complete.	1 ax.
1 Bashor heater.	1 locker.
1 Prunty relief-valve.	3 pairs wire-pliers.
23 feet gum suction-sleeve.	2 braces, 16 drills.
1 brass plug connection.	3 hammers.
3 feet gum gooseneck.	1 ratchet-wrench.
1 brass sleeve-basket.	2 punches.
3 packing-wrenches.	1 square and compass.
3 squirt-cans.	2 calipers.
1 oil-can.	3 heater valve-springs.
3 suction-spanniers.	1 reducer.
2 hose-spanniers.	1 bell and rack.
1 Deitz reflecting-lantern.	3 tons coal, "splint."
2 nickel lanterns.	2 pounds unsuedurian packing.
2 shovels and 2 bars.	5 pounds asbestos packing.
8 monkey-wrenches.	1 gum bucket.
20 feet steam-hose.	1 oak bucket.
17 files; 4 good.	5 assorted chisels.
2 oil-cans.	3 suction sleeve-jackets.
1 hose-reducer.	1 tube-expander.
2 plug-thawers.	1 washer-cutter.
1 vise and bench.	2 chamois skins.
2 brass play-pipes and 5 nozzles.	2 sponges.
2 side-lights.	1 brass plug-connection.
	11 feet suction-sleeve, bad.

HOSE-CARRIAGE DEPARTMENT.

1 four-wheel hose-carriage.	6 spool-straps.
3 gum play-pipes.	1 way, Siamese.
1 copper play-pipe.	2 nozzle tip-reducers.
1 Prunty cut-off and spray.	3 perforated tips.
1 Prunty cut-off.	2 jacks.
3 nozzles, 3 tips.	1 Little Wonder fire-escape.
1 brass pipe-holder.	3 alarm-keys.
2 leather pipe-holders.	1 ceiling-hook.
3 ladder-straps.	1 Deitz reflecting-lantern.
2 iron hose-clamps.	50 feet rope.
1 ax.	1 extra carriage-pole.
3 axes, scabbard, and belts.	1 singletree and traces.
2 Jackson force-pumps.	1 extension-ladder, 23 feet.
2 brass reducers.	2 sponges, 2 chamois.
300 feet life-line.	2 brass hand-lanterns.
2 casting lines and weights.	12 extra gum gaskets.
2 plug-keys.	4 extra wheels.
6 spanniers.	1 cushion.
1 brass spool-snap.	1 whip.

HOUSE DEPARTMENT.

2 fire-alarm gongs.	3 coal-hods.
1 drill-gong.	2 coal-shovels.
1 stable-gong.	1 grindstone.
1 telephone.	Dusters and dust-pan.
10 iron bedsteads.	3 corn brooms.
10 bed-springs.	2 mops.
10 hair mattresses.	15 spittoons.
10 shuck mattresses.	2 tables.
41 sheets.	10 night-keys.
13 towels.	1 writing-desk.
37 pillow-slips.	Paper, pens, ink, etc.
41 double blankets.	2 book-cases.
11 feather pillows.	Books, rules, etc.
8 moss pillows, bad.	5 stoves and fixtures.
1 good carpet, 4 bad.	1 large locker.
16 stair-rods, nickel.	3 brass sliding-poles.
23 chairs.	6 mats.
4 step-ladders.	6 gas-burners.
1 water-cooler and stand.	18 window-shades and fixtures.
2 tons white-ash coal.	

HOSTLER'S DEPARTMENT.

4 horses.	4 patent halter-hitches.
2 sets double harness, with swinging-gear attached.	4 halter-stems.
2 sets double harness.	3 pitchforks.
2 sets double lines.	2 extra bridles, bad.
8 horse-blankets.	1 wheelbarrow.
4 horse-hoods and covers.	24 Bullwinkle snaps.
2 pad-saddles.	3 bins.
2 sets line hand-holders.	3 wooden buckets.
2 curry-combs and brushes.	8 pounds harness-dressing.
4 sponges, 4 whips.	10 bushels oats.
8 extra harness-saddles.	300 pounds hay.
2 clipping-machines.	200 pounds straw.
4 rubber cloths.	2 bushels bran.
2 brass scrapers.	8 pounds flaxseed meal.
	5 pounds rock salt.

STORE-HOUSE DEPARTMENT.

2 dozen papers tripoli.	1 package axle-grease.
3 cakes sapolio.	2 gallons linseed oil.
4 stove-brushes and polish.	15 pounds castile soap.
48 sheets emery and crocus cloth.	8 cakes toilet soap.

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STORE-HOUSE DEPARTMENT—continued.

24 cakes Babbitt soap.	20 feet chain.
2 cakes harness soap.	10 rubbing cloths.
2 pounds copper rivets and wire.	11 bales wick.
15 pounds oxalic acid.	2 engine discharging gates.
5 pounds waste, 5 pounds whiting.	2 wooden buckets.
2 brass lanterns.	2 gallons oil.
1 nickel lantern.	1 pair pliers.
1 nickel oil cup.	3 dusters.
9 snaps.	14 leather scrapers.
9 cotton mops.	1 coal-oil can.
12 pounds gum for gaskets.	$\frac{1}{2}$ barrel coal-oil.
4 hanks sash-cord.	12 corn brooms.
5 sets work-coupling.	1 iron bedstead.
3 half sets work-coupling.	1 old Prunty cut-off.
8 coupling-rings.	4 tips.
2 coupling machines.	10 lantern globes.
1 heater, connection, and pipe.	3 chamois.
24 boxes blacking.	2 pounds sponge.
3 wooden oil-cans.	15 brass air-chamber nuts.
3 mop-holders.	2 sheets asbestos.
2 funnels.	4 paint-brushes.
3 curry-combs and brushes.	2 dump hooks.
2 water-gauges, glass.	100 feet life-line.
1 gallon arnica.	1 can harness dressing.
6 spiral springs.	1 can harness oil.
2 squirt-cans.	3 steam-gauges.
1 platform scale.	

FIRE MARSHAL'S DEPARTMENT.

1 horse.	1 oil cover and blanket.
1 carriage.	1 pair reins, etc.
1 set harness.	1 sponge.
1 lantern.	1 chamois.
1 whip.	2 shaft-tugs.
1 lap-robe.	

Members Engine Company No. 5.

Name.	Position.	Age.	Occupation.	Residence.
John D. Kurtz	Acting foreman	34	Carpenter	1687 Valley street.
William B. Read	Engineer	43	Plumber	723 Twenty-third street north-west.
John D. Angell	Fireman	39	Engineer	1066 Thirty-first street north-west.
James H. Mahoney	Hostler	46	Carpenter	3221 P street northwest.
Andrew J. Sullivan	Private	33	Blacksmith	1710 Thirty-third street north-west.
Joshua T. Young	do	36	Miller	1515 Thirty-second street northwest.
Thomas C. Whelan	do	39	Laborer	1517 Thirty-second street northwest.
George W. Tenley	do	28	do	3259 Prospect avenue.
R'd R. Allen.	do	27	do	1068 Thirty-first street north-west.
A. M. Donaldson	do	26	do	18 P street northeast.

ENGINE COMPANY No. 6.

One two-story brick house, with stable and hose-tower attached, located on Massachusetts avenue, between Fourth and Fifth streets, northwest.

ENGINEER DEPARTMENT.

1 third-class Clapp & Jones engine.	1 shovel.
1 Prunty heater.	5 extra engine-wheels.
1 extra engine-pole.	3 old swingletrees.
1 old discharge gate.	2 jack-screws.
3 old glove-valves.	3 oil-cans.
2 pair slip-joints.	1 washer-cutter.
4 hand-lamps.	1 hand-saw, hatchet, and square.
2 brass pipes.	2 gallons oil.
6 nozzles.	$\frac{1}{4}$ barrel coal oil.
4 spanners.	3 pounds acid.
8 wrenches.	10 pounds cotton waste.
3 squirt-cans.	1 dozen emery cloth.
25 feet steam-hose.	6 files.
1 fender and slice-bar.	1 sheet gum.

HOSE-CARRIAGE DEPARTMENT.

1 hose-carriage.	2 branch pipes, old.
4 6-foot ladders.	1 Little Wonder fire-escape.
1 gum bucket.	4 nozzle-tips.
2 lamps.	4 ladder-strips.
1 life-line.	50 feet street-hose.
1 street-line.	2 Prunty cut-off nozzles.
2 extra carriage-wheels.	1 carriage-apron.
2 axes.	10 hose-spanners.
2 Johnson pumps.	4 axes.
2 branch pipes.	1 roof-nozzle.

HOSTLERS' DEPARTMENT.

3 horses, good.	2 bits.
1 horse, fair.	1 good bucket.
1 horse, good (chief).	1 scraper.
3 sets double swing-harness.	1 harness punch.
1 extra set traces, collar, and harness.	4 hitching-straps.
10 horse-blankets.	4 patent holder-stems.
4 pitchforks.	1 block and fall.
1 shovel.	4 horse-hoods.
1 lot old harness and breeching.	4 traces.
4 bridles.	2 scrub-brushes.
2 horse-buckets.	2 extra pole-straps.
3 whips, saddle, and bridle.	3 rubbing-cloths.
1 pad-saddle.	3 curry-combs.
2 pair clippers.	

HOUSE DEPARTMENT.

10 iron bedsteads.	11 feather pillows.
2 step-ladders.	4 old carpets.
3 stoves.	1 writing-desk.
14 towels.	1 table.
6 towels.	1 lounge.
11 mattresses.	17 spittoons.
23 hair mattresses.	2 mats.
26 bed-spreads.	1 book-case.
48 sheets.	1 alarm gong.
27 pillow-cases.	2 clocks.
2 oil-cloths.	24 arm chairs.
30 double blankets.	2 looking-glasses.

STORE-ROOM.

2 spool-straps.
1 bucket.
4 new couplings, lot old.
6 nozzles.
1 gallon arnica.
6 rubbing cloths.
1 sponge.

6 chamois skins.
1 pound acid.
3 brushes, 2 curry-combs.
3 pounds soap.
1 corn broom.
 $\frac{1}{2}$ dozen small brooms.

CHIEF'S DEPARTMENT.

1 wagon.
2 sets single harness.
1 whip, robes, and blanket.

1 cover and apron.
2 lap-robes.

Members No. 6 Engine Company.

Name.	Position.	Age.	Occupation.	Residence.
Francis Lewis	Foreman	46	Painter	408 Fifth street northwest.
Thomas Martin	Engineer	48	Blacksmith	475 I street northwest.
William Ricks	Fireman	34	Engineer	1324 Fourth street northwest.
Alex. Savoy	Hostler	43	Barber	412 First street southwest.
Howard Wright	Private	36	Carpenter	312 M street northwest.
William Luskey	do	39	Laborer	413 A street northeast.
Thomas Lynch	do	31	Carriage trimmer	437 H street northwest.
William Wansall	do	30	Electrotyper	428 I street northwest.
Jno. Lynch	do	28	Laborer	217 G street northeast.
Jas. Grady	do	35	Mariner	423 Massachusetts avenue northwest.
Alex. Brown	do	33	Painter	826 Fourth street northwest.

ENGINE COMPANY NO. 7.

One two-story brick building, one-story brick feed-house attached, located on R street, between Ninth and Tenth streets, northwest.

ENGINEER DEPARTMENT.

1 fourth-class Clapp & Jones engine, good.
1 Prunty heater, with feed-boiler.
1 jack-screw.
2 oil-cans.
1 shovel and poker.
2 reducers.
1 suction-reducer.
1 plug-thawer.
20 feet steam-hose.
1 hose and 2 suction-spanners.
1 Prunty relief-valve.
1 Owen connection.
1 vise and bench.
2 monkey-wrenches.
4 leather half traces.
2 brass play-pipes.
2 reflector lamps.
2 hanging lamps.
2 side lamps.
23 feet suction hose.
1 bell.
2 tool-boxes.
1 gum bucket.

1 wooden bucket.
1 goose-neck, $2\frac{1}{2}$ feet.
1 strainer.
2 packing-hooks.
1 wrench and hammer.
1 supply oil-can.
1 water and 2 steam guages.
1 set slip-joint connections.
1 ax.
2 heater-grates.
1 set extra engine-grates.
15 feet coil-wire.
2 oil-cans.
2 gum washers for suction.
4 hose washers.
1 stuffing-box.
1 spanner for relief.
1 pump-wrench.
1 wheel-wrench.
2 pipe holders.
5 gallons oil.
3 tons engine coal.

HOSE-CARRIAGE DEPARTMENT.

1 4-wheel hose-carriage.
2 gum play-pipes.
1 Prunty cut-off nozzle.
1 iron wheel in tower.
70 feet rope in tower.
1 hose-carriage bell.
2 ladder hose-clamps.
2 ladder straps.
1 wrench.
1 jack-lever.
1 tubular lantern.
2 plug keys.
Set alarm keys.
2 Johnson's force-pumps.
1 brass reducer.

1 gum bucket.
4 leather half traces.
1 pick-ax.
1 ax.
2 hatchets, scabbard, and belts.
6 spanners.
2 cushions.
2 spool-straps.
1 Little Wonder fire-escape.
107 feet life-line.
1 ladder, 23 feet.
1 ceiling-hook.
4 extra gum washers.
2 extra wheels.

HOSTLER'S DEPARTMENT.

5 horses.
2 sets double harness.
1 set old harness.
4 blankets and hoods.
1 pad-saddle.
1 shovel.
4 extra bridles and bits.
2 corn brooms.
2 wooden buckets.
4 hitching-straps.
2 whips.
2 rubbing-cloths.

2 sponges.
4 halter-stems.
1 clipping machine.
2 curry-combs and brushes.
3 pitchforks.
1 feed-bin.
20 bushels oats.
500 pounds hay.
300 pounds straw.
100 pounds cut hay.
100 pounds corn-meal.
100 pounds bran.

HOUSE DEPARTMENT.

Improved trip for releasing horses.
1 fire-alarm gong.
1 drill gong.
10 iron bedsteads.
10 hair mattresses.
10 shuck mattresses.
20 sheets.
20 pillow-slips.
30 pair blankets.
10 feather pillows.
10 hair pillows.
10 bed-spreads.
8 towels.
3 carpets.
1 telephone.
2 step-ladders.
Water-cooler and stand.
1 writing desk, etc.
2 tables.

3 mops.
2 coal-hods.
1 dust-pan and brush.
1 grindstone and stand.
1 wooden bucket.
1 hatchet and saw.
18 chairs.
2 clocks.
16 shades.
14 lockers.
4 stoves.
3 corn brooms.
1 water-gauge.
8 tons white ash coal.
1½ bales oakum.
1 water-gauge.
1 set caulking tools.
50 feet garden-hose.

STORE-ROOM DEPARTMENT.

5 papers tripoli.
5 papers polish.
1 dozen wicks.
1 bucket axle-grease.
4 chamois-skins.
1 sponge.
4 pounds acid.
6 lamp-globes.
3 snaps.
5 pounds whiting.
2 brass lanterns.
7 mops.
8 cakes soap.
8 pounds Babbitt's soap.
3 hanks sash-cord.
1 can harness dressing.
6 cakes harness soap.
6 sheets.

8 pillow-slips.
7 towels.
1 suction-clamp.
5 gum valves.
4 nozzles.
1 oil stove.
4 sheets crocus cloth.
1 sheet emery cloth.
8 pounds packing.
1 ratchet, brace, and drills.
1 washer-cutter.
1 pair compasses and dividers.
1 pair calipers.
1 monkey-wrench.
1 extension wrench.
4 pounds waste.
10 bed-spreads.
2 dusters.

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Members Engine Company No. 7.

Names.	Position.	Age.	Occupation.	Residence.
Frank J. Wagner	Foreman	44	Butcher	952 R street north west.
Calhoun Clarke	Engineer	48	Laborer	1402 S street north west.
Patrick J. Carroll	Fireman	34	Blacksmith	724 Fourth street north west.
Geo. G. Warren	Hostler	30	Driver	1719 Vermont avenue north-west.
Michael Sweeney	Private	29	Laborer	Seventh street road.
Silas W. Donaldson	do	26	Driver	1717 Vermont avenue north-west.
Wm. H. Webb	do	24	Laborer	706 Rhode Island avenue north-west.
Thos. M. Robinson	do	24	Brass-finisher	1610 Fifth street north west.
Timothy O'Brien	do	28	Laborer	38 G street north west.
Wm. P. Cady	do	22	do	1830 Eighth street north west.

TRUCK A COMPANY.

One two-story brick building with out-building attached, located on North Capitol and B streets, northeast.

TRUCK DEPARTMENT.

- | | |
|---|-----------------------|
| 1 truck, "Buckley & Merrett make." | 4 reflecting lamps. |
| 1 ladder, 67-foot extension and 18 foot lever, with guy-poles, halyards, and platform complete. | 2 sponges. |
| 1 50-foot extension ladder. | 2 chamois skins. |
| 1 40-foot ladder. | 2 wrenches. |
| 1 37-foot ladder. | 1 vise. |
| 1 30-foot ladder. | 7 hooks. |
| 1 28-foot ladder. | 1 bell. |
| 1 24-foot ladder. | 1 hammer and auger. |
| 1 20-foot ladder. | 3 shovels. |
| 1 16-foot ladder. | 4 old lamps. |
| 1 15-foot ladder. | 1 pipe-holder. |
| 1 10-foot ladder. | 2 keys. |
| 2 fire-extinguishers with 50 feet gum hose attached. | 1 crow-bar. |
| 300 feet street rope. | 2 Johnson's pumps. |
| 4 axes. | 1 Siamese connection. |
| 4 gum buckets. | 25 feet gum hose. |
| 2 corn brooms. | 1 play pipe. |
| 1 jack-screw. | 1 reducer. |
| 3 pitchforks. | 3 nozzles. |
| 1 oil-can. | 1 spanner. |
| 1 extra truck-wheel. | 1 head-light. |
| | 1 door-opener. |
| | 3 saws. |

HOUSE DEPARTMENT.

- | | |
|-------------------------|----------------------|
| Bath-room and fixtures. | 3 carpets. |
| 24 arm chairs. | 1 carpet. |
| 4 chairs. | 26 brass rods. |
| 13 iron bedsteads. | 1 table. |
| 13 mattresses. | 1 desk. |
| 12 hair pillows. | 1 alarm gong. |
| 11 spring mattresses. | 12 spittoons. |
| 12 feather pillows. | 1 step ladder. |
| 9 curtains. | 2 brushes and combs. |
| 1 lounge. | 1 gum bucket. |
| 1 book-case. | 2 looking-glasses. |
| 2 stoves. | 18 globes. |
| 18 bed-spreads. | 1 broom. |
| 41 sheets. | 1 duster. |
| 29 pillow-slips. | 1 pan and brush. |
| 2 pillow-slips. | 1 mop. |
| 12 towels. | 1 wardrobe. |
| 43 pair blankets. | |

HOSTLER'S DEPARTMENT.

4 horses.	2 buckets.
1 double set swinging harness.	2 whips.
1 saddle.	3 pitchforks.
4 horse-blankets.	2 shovels.
4 hoods.	2 brooms.
2 pairs clippers.	4 hitching-straps.
1 pair shears.	3 fly covers.
1 punch.	1 set old harness.
4 bridles.	1 telephone.
3 curry-combs.	4 spittoons.
4 brushes.	3 mats.
2 horse-covers.	7 chairs.
2 pole-snaps.	1 clock.
2 bridles.	1 stove.
4 halter-stems.	1 table.
3 halter-stems.	

STORE-ROOM DEPARTMENT.

5 balls wick.	4 old gum buckets.
30 pounds waste.	2 tons coal.
12 snaps.	10 gallons oil.
2 pounds sponge.	5 gallons coal-oil.
7 mops.	1 extra truck-pole.
1 duster.	2 picks.
1 dozen brooms.	40 feet gum hose.
3 combs and brushes.	1 wheelbarrow.
6 lamp-shades.	2 pair hames.
2 brushes.	300 pounds hay.
2 curry-combs.	300 pounds straw.
12 sheets emery cloth.	3 bushels bran.
5 cakes toilet soap.	8 bushels oats.
6 boxes harness soap.	1 pair platform scales.
25 pounds Babbit's soap.	1 gum play-pipe.
3 cans harness dressing.	100 feet old hose.
1 duster.	1 work-bench.
300 feet rope (old).	2 planes, saw, files, etc.
300 feet rope (new).	2 old axes.
1 screw-driver, rule, etc.	2 monkey-wrenches.

ASSISTANT CHIEF'S DEPARTMENT.

1 buggy, whip, lamp.	1 blanket, sponge, wrench.
Set harness.	1 chamois skin.
1 lap-robe, 1 gum cover.	

EXTRA ENGINE.

1 fourth-class Clapp & Jones engine, single, good.	10 feet gum hose.
10 feet suction.	3 wrenches.
14 feet suction.	4 spannier wrenches.
2 play-pipes.	1 oil-can.
2 lamps.	2 iron fenders.
2 reflectors.	1 slice-bar and shovel.

Members Truck A Company.

Name.	Position.	Age.	Occupation.	Residence.
John P. Kane.....	Foreman.....	38	Plasterer.....	A Truck Company.
Samuel R. Henry.....	Tillerman.....	37	Laborer.....	20 Second street, N. E.
J. O. Leary.....	Hostler.....	38	Blacksmith.....	15 Massachusetts avenue.
James F. Creamer.....	Private.....	31	Laborer.....	15 C street, N. E.
E. J. Hooper.....	do.....	25	do.....	330 B street, N. E.
Joseph N. Mulhall.....	do.....	34	Painter.....	20 Second street, N. E.
Frank H. Cross.....	do.....	23	Boiler-maker.....	711 E street, S. E.
Thomas R. Newman.....	do.....	50	Blacksmith.....	307 A street, N. E.
F. W. Reitz.....	do.....	30	Seaman.....	1014 I street, S. E.
P. W. Nicholson.....	do.....	26	Paper hanger.....	626 E street, S. E.

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TRUCK B COMPANY.

One two-story brick house with side shed attached, located corner New Hampshire avenue and M street, northwest.

APPARATUS DEPARTMENT.

1 Babcock hook and ladder truck, complete.	1 Little Wonder fire escape.
1 Bangor extension-ladder, with 22-foot lever.	3 Johnson's pumps.
1 ladder, 70 feet.	230 feet rope.
1 Bangor extension-ladder, 51 feet, 14-foot lever.	102 feet rope.
1 ladder, 35 feet.	97 feet rope.
1 ladder, 25 feet.	167 feet rope.
1 ladder, 20 feet.	3 brooms.
1 ladder, 14 feet.	3 corn brooms.
1 ladder, 10 feet.	3 pounds sponge.
1 ladder, 18 feet.	1 gum bucket.
1 ladder, 16 feet.	1 tool-box, saws, etc.
1 ladder, 12 feet.	7 keys.
2 Holloway fire extinguishers and 137 feet hose.	1 monkey-wrench.
4 pick axes.	1 pair snips.
1 ax.	1 brass squirt-can.
1 pickaxe.	5 hatchets.
8 gum buckets.	1 jack-screw.
5 tubular lamps.	3 mops.
7 hatchets.	2 chamois skins.
1 hook and chain.	2 side lamps.
9 fire-hooks.	1 bucket.
2 crowbars.	1 reducer.
4 pitchforks.	5 extra axes.
2 shovels.	2 extra picks.
1 spade.	2 traces.
	1 snap and bit.
	1 reflecting-lamp.
	1 platform and turn-table.

HOUSE DEPARTMENT.

1 wardrobe.	2 chandeliers.
1 book-case.	1 center-table.
1 sofa.	1 desk.
2 looking-glasses.	1 alarm gong.
12 iron bedsteads.	1 clock.
13 hair mattresses.	1 wash-stand.
9 hair pillows.	1 bath-tub, etc.
12 feather pillows.	2 gum spittoons.
48 double blankets.	13 lockers.
25 bedspreads.	6 glass globes.
31 sheets, new.	9 oak chairs.
24 sheets, old.	2 tables.
21 pillow-cases, new.	2 stoves.
24 pillow-cases, old.	4 spittoons.
16 towels.	1 wash-stand.
24 chairs.	1 telephone.
6 spittoons.	2 brass sliding-poles.
3 carpets.	2 drill gongs.
2 stoves.	

HOSTLER'S DEPARTMENT.

4 horses.	1 cotton mop.
2 sets double harness.	3 whips.
1 set double lead harness.	4 old traces.
1 set extra lines.	2 rubbing-cloths.
1 old saddle.	1 punch.
8 old blankets.	1 pair clippers.
4 covers.	4 old bridles.
4 halter stems.	25 bushels oats.
2 curry-combs and brushes.	600 pounds hay.
2 mane brushes.	400 pounds straw.
2 hitching straps.	1 feed bin.
1 hook.	2 bushels meal.
2 old buckets.	4 bushels bran.
1 broom.	

EXTRA APPARATUS DEPARTMENT.

1 single pump, Clapp & Jones engine.	1 pump wrench.
5 monkey wrenches.	1 reducer.
1 suction spannier.	4 traces.
1 nose spannier.	1 discharge gate.
1 hammer.	1 old hook and ladder truck.
1 oil can.	1 40-foot Bangor ladder with 12-foot lever and two poles.
1 squirt-can.	1 25-foot ladder.
1 shovel and poker.	1 18-foot ladder.
2 brass pipes.	2 cushions.
5 nozzles.	2 large straps.
4 nickel reflecting lamps.	4 traces.
2 nickel-plate lamps.	2 pole-straps and snaps.
2 side stays.	

ASSISTANT CHIEF'S DEPARTMENT.

1 wagon.	1 set harness.
3 extra reins.	3 extra bridles.
1 cover.	1 blanket.
1 lap-robe.	2 whips.
1 jack screw.	1 extra seat.
1 wrench.	1 net.

STORE-HOUSE DEPARTMENT.

5 cotton dusters.	4 papers rivets.
1 pound oxalic acid.	6 pounds Babbit's soap.
1 dozen snaps.	5 cakes harness soap.
1 pound sponge.	1 mane brush.
5 cans harness oil.	4 brushes.
3 curry-combs.	2 lamp globes.
2 brushes.	6 pounds axle-grease.
1 rubbing-cloth.	1 set carpenters' tools.
3 pounds copper wire	2 hose-pipe holders.
2 mop-handles.	2 tons stove coal.
1 tubular.	10-foot ladder.
2 braces.	50 feet old gum hose.
1 gallon arnica.	1 platform scales.
1 tube-scraper.	4 old shovels.
1 washer cutter.	2 small ladders.
1 pair pliers.	4 old brass lanterns.
6 corn brooms.	353 feet 1-inch manila rope.
7 papers blacking.	40 feet iron pipe.
6 saws.	1 brass reducer.
4 pounds Castile soap.	14-foot step-ladder.
2 cans harness dressing.	75 feet gum hose.
4 brushes.	12 feet canvas hose.
4 chamois skins.	1 vise and bench.
3 dust-pans and shovel.	68 feet cotton rope.
2 gum pipes.	2 truck wrenches.
1 Little Wonder fire-escape.	4 brass nozzles.
7 chisels.	1 Little Wonder fire-escape.
Saw, bits, screw-drivers, etc.	1 wheelbarrow.
10 pounds cotton waste.	

332 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Members Truck B Company.

Name.	Position.	Age.	Occupation.	Residence.
Geo. Spillman.....	Foreman.....	42	Laborer.....	2803 M street northwest.
Jno. Sherman.....	Tillerman.....	42	do.....	1831 R street northwest.
Daniel Williams.....	Hostler.....	46	do.....	1212 Twenty-fourth street northwest.
Timothy Donohoe ...	Private.....	30	Stonecutter.....	1137 Twenty-third street northwest.
Jno. Hyland.....	do.....	29	Laborer.....	1240 New Hampshire avenue northwest.
Jno. Cannon.....	do.....	31	do.....	1240 New Hampshire avenue northwest.
Martin Niland.....	do.....	24	Plumber.....	1148 Twentieth street northwest.
Pat. Mahoney.....	do.....	24	Miner.....	1800 Boundary street northwest.
Thos. Purcell.....	do.....	29	Stonecutter.....	1123 Twenty-fourth street northwest.
Thos. Hayes.....	do.....	28	Laborer.....	1240 New Hampshire avenue northwest.
Jno. Walker.....	Watchman.....	50	Brick-layer.....	3271 Prospect avenue northwest.

M 2.—FIRE MARSHAL'S REPORT.

FIRE MARSHAL'S OFFICE,
Washington, D. C., August 12, 1887.

DEAR SIR: I have the honor to transmit the following report of the transactions of this office for the fiscal year ending June 30, 1887. During the year I visited and inspected the scene of 186 fires for which alarms had been rung, also the scene of 65 local fires for which no alarm was sounded. A list of the causes for said fires, with the loss and insurance, will be found in this report; also number of stores visited and barrels of illuminating oils inspected, and the number of tenements visited and inspected which were reported in an unsafe condition and in danger from cause of fire; also report on the dangerous low-grade kerosene oil which is being placed on this market and offered for sale.

Total loss by fire, \$298,629. Insurance, \$241,164.

I visited and inspected 25 different tenements which were reported to me as being in an unsafe condition and in danger from cause of fire by defective flues, stove-pipes, furnaces, smoke-stacks, combustible materials, etc., all of which have been attended to and put in a safe condition.

During the year I visited 861 stores where illuminating oil is kept on sale, and inspected 861 barrels of kerosene oil, of which I found 399 barrels of a very low grade and which would not stand the proof test. In this connection, I desire to again call attention to the great quantity of low grade oil which is being sent to this market and put on sale in the different establishments at retail.

From my experience in testing this product during the past year, I find that about 47 per cent. is below the proof test and of a vile and combustible nature. This is undoubtedly very dangerous and is apt to cause many fires and many deaths by the explosion of lamps.

Following will be found the number of fires and alarms from July 1, 1886, to June 30, 1887, with the causes and kind of buildings; also table showing the number of different causes.

JOSEPH PARRIS, Esq.,
Chief Engineer, District of Columbia Fire Department.

Detailed statement of fires, losses, and insurance for the year ending July 1, 1887.

No. of fire.	Date.	Hour.		Box.	Location.	Owner or occupant.	How occupied.	Style of building.	Cause.	Loss.	Insurance.
1	1886. July 5	a. m. 11.32	p. m.	431	1224 D street southwest	L. Anderson	Dwelling	Brick	Fire-crackers	.....	.....
2	July 6	2.03	.....	47	617 Four-and-a-half street southwest.	F. Goldsmith	Clothing store	Frame	Incendiary	\$400	\$400
3	July 27	.....	9.15	16	612 to 616 Pennsylvania avenue northwest.	Barbour & Hamilton	Grocery	Brick	Electric-light wire	45,000	45,000
4	July 31	12.07	.....	123	606 G street northwest	J. Costella	Dwelling	Frame	Accident	.....	.....
5	Aug. 7	.....	9.14	327	917 Twenty-sixth street northwest.	W. F. Grindon	Stable	Frame	Carelessness	400	.....
6	Aug. 7	.....	11.53	319	2017 Q street northwest	R. Buchanan	Dwelling	Brick	Incendiary	1,200	1,200
7	Aug. 9	.....	9.53	523	1008 Fourteenth street southeast	John Burkhardt	do	Frame	do	100	100
8	Aug. 15	10.04	.....	516	223 Pennsylvania avenue southeast.	William B. Marche	Tin and stove store	do	do	100	100
9*	Aug. 20	7.40	.....	324	Twenty-fifth and N streets northwest.	Memmert & Co.	Soap factory	Frame	Chimney	.....	.....
10	Aug. 24	.....	3.34	328	.....	.....	.....	.....	.....	.....	.....
11	Sept. 4	2.25	.....	218	1934 Tenth street northwest	J. R. Meads	Dwelling	do	Stove-pipe	50	50
12	Sept. 6	10.30	.....	516	223 Pennsylvania avenue southeast.	William B. Marche	Tin and stove store	do	Carelessness	.....	.....
13	Sept. 8	4.07	.....	218	2122 to 2124 Eighth street northwest.	J. Harrison, William Clements.	Dwellings	do	Unknown	700	500
14	Sept. 17	8.21	.....	327	Twenty-seventh, near K street, northwest.	Dyer & Co.	Planing mfl.	Brick	Escaping steam	.....	.....
15	Sept. 20	10.47	.....	37	1930 Pennsylvania avenue northwest.	Luttrell & Wine	Dry goods store	do	Spontaneous combustion.	100	100
16	Sept. 25	.....	10.23	521	Eighteenth, between B and C streets, southeast.	Eliza Hughes	Stable	Frame	Incendiary	75	50
17	Sept. 30	.....	6.11	417	Fourteenth street and Maryland avenue southwest.	George Creveling	do	do	do	800	.....
18	Oct. 2	.....	10.38	237	1101 Q street northwest	G. W. Springman	Feed store	do	do	1,725	700
19	Oct. 3	.....	12.18	54	414 L street southeast	L. Fowler	Dwelling	do	Defective flue	500	500
20	Oct. 7	.....	6.38	153	1210 Ohio avenue northwest	W. R. McLean	Planing mill	Brick	Incendiary	14,000	9,500
21	Oct. 10	.....	1.43	634	Eighteenth and B streets northeast.	Susan Johnston	Dwelling	Frame	Stove	400	50
22	Oct. 14	9.16	.....	32	1729 Pennsylvania avenue northwest.	Charles Pustch	Tailoring establishment.	Brick	Explosion benzine can.	100	.....

* False alarm.

Detailed statement of fires, losses, and insurance for the year ending July 1, 1887—Continued.

No. of fire.	Date.	Hour.	Box.	Location.	Owner or occupant.	How occupied.	Style of building.	Cause.	Loss.	Insur. ance.
23	1886. Oct. 16	a. m. 9. 26	148	1017 Fourteenth street northwest	William F. Barker.	Dwelling	Brick	Sparks	\$130	100
24	Oct. 16	p. m. 9. 38	71	3064 M street northwest	Schoff & Son	Stable	Frame	Carelessness	275	
25	Oct. 17	2. 39	213	1814 Seventh street northwest	George W. Ashton	Restaurant	do	Incendiary	75	75
26	Oct. 18	3. 12	12	130 C street northwest	Eshleman Brothers	Grocery store	Brick	Accident	100	100
27	Oct. 19	6. 38	213	1542 Seventh street northwest	J. C. Purdy	Dwelling	do	Lamp explosion		
28	Oct. 22	4. 39	324	2155 Pennsylvania avenue northwest.	Thomas Lucas	Public hall	do	Cigar stump	5	5
29	Oct. 23	9. 59	312	2204 E street northwest	Mary Hilton	Dwelling	Frame	Defective flue		
30	Oct. 25	12. 45	71	2906 Olive avenue northwest	S. C. Palmer	Stable	Brick	Incendiary	10	
31	Oct. 25	11. 25	516	223 and four others, Pennsylvania avenue southeast.	William B. Marche and others.	Stores	Frame	do	600	600
32	Oct. 26	10. 25	314	2026 H street northwest	Charles Hart	Dwelling	Brick	Defective flue	22,050	14,400
33	Oct. 30	8. 37	17	325 C street northwest	C. S. Cullip	Stable	do	Incendiary	50	50
34	Oct. 30	12. 49	327	Twenty-seventh, near K street, northwest.	Dyer & Co.	Planing mill	do	Furnace	2,000	2,000
35	Nov. 4	6. 36	13	Alley between Second and Third and B and C streets northwest.	Nanie Hendrick	Dwelling	Frame	Unknown	40,265	27,380
36	Nov. 4	8. 06	713	1623 Third street northwest	William Woodville	Stable	do	Accident	15	
37	Nov. 5	5. 02	218	2019 Vermont avenue northwest	Oscar Robinson	Dwelling	Brick	Stove-pipe	50	
38	Nov. 7	10. 05	214	607 Pomeroy street northwest	Mary Groves	do	do	Accident	10	10
39	Nov. 8	7. 01	52	125 Third street northeast	William DuBois	do	do	Accident	5	
40	Nov. 11	5. 11	72	2812 P street northwest	Thomas Dowling	Stable	do	Gas jet	20	
41	Nov. 11	8. 10	328	Alley between Twenty-fourth and Twenty-fifth and M and N streets northwest.	George Philipps	Dwelling	Frame	Lamp explosion		
42	Nov. 12	3. 15						Chimney		
43	Nov. 12	3. 39	236	1500 Eleventh street northwest.	L. Thomas	Pool-room	do	Accident	0	
44	Nov. 12	1. 45	628	Fourteenth and H streets northeast.	Washington Brick Company.	Brick-shed	do	Furnace	50	
45	Nov. 13	9. 59	243	1434 Corcoran street northwest	Charles Colton	Dwelling	Brick	Chimney		
46	Nov. 14	10. 34	123	711 Seventh street northwest	R. Selinger	Pawnbroker	do	Accident	3,700	2,000
47	Nov. 14	10. 44	212	1217 Seventh street northwest	Stumph Brothers	Stable	do	Incendiary	10	
48*	Nov. 16	5. 54	151	1107 B street northwest	Broderick Brothers	Junk-store	do	Spontaneous combustion.	1,080	1,080
49	Nov. 17	9. 12								
50	Nov. 18	5. 34	124	609 E street northwest.	P. G. Russell	Dwelling	Brick	Chimney		
51	Nov. 20	11. 01	721	Seventh street and Pennsylvania avenue northwest.	J. Fitzgerald	Hotel	do	Accident		
52	Nov. 21	1. 58	136	Potomac and Grace streets northwest.	Thomas Brown	Dwelling	Frame	Chimney		
				1011 Twelfth street northwest	John P. Town	Wood-shed	do	Hot ashes	50	50

	Nov. 27	8.47				John Ellis	Dwelling	Brick	Incendiary	20	20
53	Nov. 27		133 N street northwest.	24		John Ellis					
54	Nov. 27	12.30	1006 Eleventh street northwest.	215		R. C. Greenland	do	do	Hot ashes		
55	Nov. 27	1.43	3522 N street northwest.	712		N. Polk.	do	do	Chimney		
										5,060	3,260
56	Dec. 2	10.13	1369 F street northwest.	142		R. B. Donaldson.	Dentist	do	Accident		
57	Dec. 2	2.36	22 I street northeast.	62		M. G. Lillie.	Dwelling	do	Stove.	275	275
58	Dec. 4	12.51	320 Second street northeast.	612		Sarah Dorsey.	do	Frame	Defective flue	10	10
59	Dec. 5	1.25		23							
60	Dec. 5	2.23	Ninth and D streets northwest.	125		A. S. Pratt & Co.	Theatre	Brick	Incendiary	109,948	91,493
61	Dec. 7	10.53	H and North Capitol streets northwest.	62		United States Gov. erument.	Government Printing Office.	do	Accident		
62	Dec. 7	11.20	332 Pennsylvania avenue northwest.	13		James Palmer	Dwelling	do	Chimney.		
63	Dec. 8	1.53	523 Twenty-fifth street northwest.	321		William Fletcher	do	Frame	Defective flue	15	15
64	Dec. 11	9.56	2117 G street northwest.	314		A. B. Graham	do	Brick	Stove-pipe	350	100
65	Dec. 13	9.35	1117 Fifth street northwest.	212		John Cudlipp	do	Frame	Unknown	100	100
66	Dec. 14	8.15	Alley between Maryland avenue and C street and Tenth and Eleventh streets southwest.	423		C. B. Church.	Stable	do	Accident	25	25
67	Dec. 14	9.56	728 Seventeenth street northwest	31		Laura Heisley	Dwelling	Brick	Defective flue	700	700
68	Dec. 18	11.42	Alley between D and E and Ninth and Tenth streets northwest.	134					Kettle of tar		
69	Dec. 24	9.21	1447 Seventh street northwest.	212		Ellen Manrick	Dwelling	Brick	Stove	20	
70	Dec. 24	10.10		151							
71	Dec. 24	10.21	Glenwood road, county.	625		Mrs. John Beale	Dwelling	Frame		200	
72	Dec. 25	7.01	Sixth street and Pennsylvania avenue northwest.	16		S. Prather.	Hotel	Brick	Chimney		
73	Dec. 25	7.18	Maryland avenue and Tenth street southwest.	423		John Hopkins	Dwelling	Frame	Oil stove explosion		
74	Dec. 25	1.39		37							
75	Dec. 25	4.15	Howard University grounds.	214		Peterson & Co.	Sutler's store.	Frame	Stove.	1,350	1,600
76	Dec. 30	5.09		513							
										93,36	112,543
77	1887. Jan. 2	7.04	1306 Clifton street northwest.	246		E. W. Fox	Dwelling	Frame	Christmas tree	1,700	1,700
78	Jan. 3	11.01	124 F street southwest.	47		C. R. Davis.	do	Brick	Stove	10	
79	Jan. 4	11.07	700 Seventh street northwest.	123		S. Weyle	Clothing store	do	Accident		
80	Jan. 4	5.35	1124 Eleventh street northwest	136		A. J. Joyce.	Stable	do	Carelessness.		
81	Jan. 6	8.04	Alley between Second and Third and M and N streets southwest	426		Thomas Delany	Dwelling	Frame	Stove-pipe.	75	
82	Jan. 8	6.06	1025 P street northwest	217		L. R. Thomas	Pool-room	do	Lamp explosion	75	75
83	Jan. 8	7.34	Seventh and L streets northeast.	64		B. McMahon.	Dwelling	Brick	Accident	5	
84	Jan. 9	7.43	1716 Fourteenth street northwest.	243		A. W. Roome.	do	do	Hot ashes	20	20
85	Jan. 10	10.11	1724 Fourth street northwest.	213		W. H. Clayton	do	do	Latrobe.	1,150	1,150

***False alarm.**

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Detailed statement of fires, losses, and insurance for the year ending July 1, 1887—Continued.

No. of fire.	Date.	Hour.		Box.	Location.	Owner or occupant.	How occupied.	Style of building.	Cause.	Loss.	Insurance.
86	1887. Jan. 11	a. m.	4. 27	35	1500 Rhode Island avenue northwest.	Alexander Graham Bell.	Dwelling	Brick	Defective hearth	26, 850	26, 850
87	Jan. 11	p. m.		217	1542 Columbia street northwest.	John Green.	do	do	Latrobe	10	
88	Jan. 11	2. 21		713	1901 Thirty-fifth street northwest.	Thomas Muntz	do	Frame	Incendiary		
89	Jan. 11	3. 11		713	do	do	do	do	do		
90	Jan. 12	3. 58		628	Fourteenth and E streets northwest.	John Killeen	Stable	do	Carelessness		
91	Jan. 12	7. 16		47	456 Sixth-and-a-half street southeast.	Owen Barron	Dwelling	do	Defective flue	25	25
92	Jan. 12	12. 50		47	464 F street southwest.	W. S. Anderson	do	do	Defective flue		
93	Jan. 13	6. 30		47	433 Twelfth street southwest.	John Allay.	do	Brick	Christmas tree	200	200
94	Jan. 14	1. 30		416	500 Sixth street southwest.	K. R. Brown	do	Frame	Stove	300	250
95	Jan. 17	9. 59		47	417 I street southeast.	John Young.	do	Brick	Accident	15	
96	Jan. 19	5. 39		57	921 Pennsylvania avenue northwest.	Woodward & Lothrop.	Stable	Frame	do		
97	Jan. 19	11. 12		125	west.		Dry goods store	Brick	Carelessness	50	50
98	Jan. 19	2. 50		54	150 Canal street southeast.	Samuel Farmer	Dwelling	Frame	Defective flue		
99	Jan. 20	5. 30		45	335 L street southwest.	A. Bailey	do	do	do		
100	Jan. 22	2. 20		713	1635 Brown street northwest.	A. Snowden	do	do	Accident	200	
101	Jan. 23	12. 54		735	Twenty-third and P streets northwest.	Metropolitan Railroad Company.	Old car	do	Spontaneous combustion.	5	
102	Jan. 23	6. 47		129	927 Pennsylvania avenue northwest.	John L. Vogt	Confectionery store	do	Incendiary	50	
103	Jan. 23	5. 34		62	North Capitol and H streets northwest.	United States Government.	Government Printing Office.	Brick	Incendiary	20	20
104	Jan. 26	8. 30		146	1403 New York avenue northwest.	S. W. Bradley	Dwelling	do	Carelessness	10	
105	Jan. 29	4. 23		514	United States navy-yard.	United States Government.	Machine shop	do	Accident		
106	Jan. 30	1. 53		314	2032 G street northwest.	John H. Bird.	Dwelling	do	Spontaneous combustion.	17, 800	
107	Feb. 4	12. 12		923	K street northwest.	W. C. Stearns	do	Frame	Rats	50	50
108	Feb. 7	5. 38		713	2035 Thirty-fifth street northwest.	T. P. Hess.	do	Brick	Child playing with matches.	100	20
109	Feb. 9	8. 40		52	305 East Capitol street	Waple & Co	Grocery	do	Incendiary	48, 720	30, 410
110	Feb. 10	8. 55		216	16 Bagdon's alley	Ann Taylor.	Dwelling	Frame	Stove	200	200
111	Feb. 13	5. 58		145	Fourteenth and C streets northwest.	Miller & Co.	Saw-mill.	Brick	Lamp explosion	700	700
112	Feb. 13	7. 55		625	Glenwood road, county	J. H. Hammer.	Hot-house	Frame	Sparks	50	50
113	Feb. 14	11. 06		319	1811 Cedar street northwest.	Edward Moten	Dwelling	do	Furnace	700	
114	Feb. 18	12. 46		35	Seventeenth and M streets northwest.	District government	Public school	do	Defective flue	25	25
115	Feb. 21	10. 22		127	800 K street northwest	S. W. Flynn	do	Brick	Unknown	10	10
				212	No. 5 Goat alley	Susan Brown	Dwelling	do	Latrobe	971	971
							do	do	Lamp explosion		

116	Feb. 24	7.31	.....	213	1817 Eighth street northwest.....	Robert Schuyler.....	do.....	do.....	Child playing with matches.	40	.....
117	Feb. 26	.....	6.19	51	United States Capitol.....	United States Government.	Folding-room.....	Marble.....	Accident.....	25	25
118	Feb. 28	10.35	.....	62	North Capitol and Myrtle streets northeast.	T. A. Carroll.....	Dwelling.....	Brick.....	Defective flue.....	5	5
119	Mar. 1	4.10	.....	43	336 L street southwest.....	Daniel Marand.....	do.....	Frame.....	Unknown.....	300	1,986
120	Mar. 2	.....	7.54	236	1423 Eleventh street northwest.....	John Clark.....	do.....	Brick.....	Child playing with match.	5	300
121	Mar. 2	.....	8.50	127	811 Seventh street northwest.....	P. and M. Foley.....	Furniture store.....	do.....	Incendiary.....	1,650	1,650
122	Mar. 3	1.38	.....	413	610-612 Seventh street southwest.	J. H. Hyer and John Beck.	Stables.....	Frame.....	do.....	400	300
123	Mar. 4	.....	7.04	26	455 O street alley.....	Matilda Smith.....	Dwelling.....	Brick.....	Defective flue.....	40	40
124	Mar. 9	1.46	.....	731	Twenty-ninth and K streets northwest.	Wheatley Brothers.....	Planing mill.....	Frame.....	Smoky pipe.....	.....	.....
125	Mar. 16	.....	12.04	132	901 I street northwest.....	M. A. Lambright.....	Dwelling.....	do.....	Latrobe.....	5	5
126	Mar. 17	9.39	.....	321	535 Twenty-fifth street northwest.	William Fletcher.....	do.....	do.....	Stove.....	10	10
127	Mar. 17	.....	5.08	54	102 M street southeast.....	Edward Horne.....	do.....	do.....	Tinner's pot.....	10	.....
128	Mar. 18	9.35	.....	24	223 Q street northwest.....	W. Pumphrey.....	do.....	Brick.....	Sparks.....	5	5
129	Mar. 18	.....	6.41	34	1734 K street northwest.....	S. M. Burnett.....	do.....	do.....	Unknown.....	200	200
130	Mar. 19	.....	5.20	36	1739 E street northwest.....	L. Douglass.....	do.....	Frame.....	Child playing with match.	25	.....
131	Mar. 20	.....	9.25	17	124 Four-and-a-half street northwest.	O. N. Brown.....	Fruit store.....	Brick.....	Accident.....	20	.....
132	Mar. 22	.....	7.58	521	326 Ninth street southeast....	Charles Thorp.....	Dwelling.....	Frame.....	Child playing with match.	5	.....
133	Mar. 29	6.55	.....	32	1733 G street northwest.....	U. S. Government.....	Dispensary.....	Brick.....	Unknown.....	15	15
134	Apr. 1	3.30	.....	27	628 S street northwest.....	Severs & Brother.....	Wood-yard shed.....	Frame.....	Incendiary.....	300	300
135	Apr. 4	.....	12.40	52	201-203 East Capitol street.....	H. W. Blair, G. C. Henning.	Dwellings.....	Brick.....	Sparks.....	2,000	1,800
136	Apr. 4	.....	8.22	634	1130 B street northeast.....	E. Wallingsford.....	Grocery store.....	do.....	Accident.....	15	15
137	Apr. 4	.....	11.45	127	736 Seventh street northwest.....	J. E. Young.....	Dry-goods store.....	do.....	Defective flue.....	8,090	8,090
138	Apr. 5	.....	3.33	321	604 Twenty-third street northwest	O. D. Denham.....	Dwelling.....	do.....	Child playing with match.	100	100
139	Apr. 12	.....	3.06	212	731 Freeman's alley.....	Jane Anderson.....	do.....	Frame.....	do.....	10	.....
140	Apr. 12	.....	3.46	148	1440 Massachusetts avenue northwest.	Robert Semms.....	do.....	Brick.....	Hot ashes.....	.....	.....
141	Apr. 12	.....	4.47	123	737-739 Sixth street northwest....	S. Keating, C. E. Bell.....	Stables.....	Frame.....	Incendiary.....	200	200
142	Apr. 13	.....	4.44	131	938 F street northwest.....	H. A. Lamb and others.....	Offices.....	Brick.....	Accident.....	10	10
143	Apr. 13	.....	1.02	54	116 Van street southeast.....	G. Mahorney.....	Wood shed.....	Frame.....	Incendiary.....	20	.....
144	Apr. 14	1.43	.....	714	1344 Thirtieth street northwest....	William E. Bell.....	Grocery.....	Brick.....	Carelessness.....	600	550
145	Apr. 14	10.28	.....	324	2414 Pennsylvania avenue northwest.	Emma Cross.....	Dwelling.....	Frame.....	Chimney.....	.....	.....
146	Apr. 14	.....	8.01	21	Alley between North Capitol and First and L and M streets northwest.	Isiah Brown.....	do.....	Brick.....	Lamp explosion.....	15	.....

Detailed statement of fires, losses, and insurance for the year ending July 1, 1887—Continued.

No. of fire.	Date.	Hour.		Box.	Location.	Owner or occupant.	How occupied.	Style of building.	Cause.	Loss.	Insurance.
		A. m.	P. m.								
147	1886. Apr. 18	1.12		427	Union street and Clark's alley southwest.	W. C. De Walt	Stable	Frame	Incendiary	\$100	
148	Apr. 21		9.50	143	803 Fourteenth street northwest.	E. O. Flaherty	Tin and paint shop.	do	Stove	150	
149	Apr. 22	1.19		143					Hot ashes.		
150	Apr. 30	6.24		19	219 E street northwest.	A. L. Wilson	Dwelling	Brick	Defective building	10	\$10
151	Apr. 30	8.32		735	2035 P street northwest	G. L. Bradley	do	do			
152	May 3		7.55	423	429 Eleventh street southwest.	Peter Klugg	do	do	Unknown	11,620	11,125
153	May 14		2.00	246	2208 Fourteenth street northwest	S. M. Vale	do	do	Accident	110	50
154	May 15	1.50		127	906 Seventh street northwest	H. Philippi	do	do	Fireboard	40	
155	May 15		9.48	52			do	do		20	20
156	May 16		11.30	314	7174 Twentieth street northwest	Ida Bemis	Dwelling	Frame	Upsetting lamp		
157	May 17		11.08	427	1222 Union street southwest.	Julia Mahorney	do	do	Incendiary		
158	May 20		3.41	52	3 Second street southeast	U. S. Government	Wood shed	do	Accident	25	
159	May 22	1.03		427	1222 Union street southwest	Julia Mahorney	Dwelling	do	Incendiary	5	
160	May 22		3.30	31	722 Seventeenth street northwest	J. H. Coates	do	do	Defective flue	15	15
161	May 24		4.58	23	1116 New Jersey avenue northwest.	W. Brown	do	Brick	Chimney		
162	May 25		9.40	17	339 Missouri avenue northwest.	B. E. Candler	do	do	Lamp explosion	5	
163	May 26		4.17	127	Seventh and I streets northwest						
164	May 28	10.12		216							
165	May 28		11.15	19	North Capitol and D streets northwest.	Seebree & Burditt	Planing mill	Brick	Spontaneous combustion.	50	50
166	May 31	4.44		146							
167	May 31		6.32	152	218 Ninth street northwest	J. H. Middleton	Restaurant	Brick	Chimney		
168	June 5		12.52	521						270	135
169	June 5		1.01	621	803 H street northeast.	F. Huhn	Provision store	Brick	Spontaneous combustion.	300	300
170	June 11		12.11	413	514 Ninth street southwest.	Samuel Leishear	Stable	Frame	Incendiary	5	5
171	June 11		1.02	324	2421 K street northwest	E. T. Loughborough	Wood shed	do	Hot ashes	5	
172	June 15		9.23	32	1711 Pennsylvania avenue northwest.	F. A. Beuchler	Harness-maker	do	Unknown	15	15
173	June 17	1.31		34	1508 to 1512 L street northwest.	P. Diggins and others.	Dwelling	do	Incendiary	500	500
174	June 18		3.40	23	412 N street northwest	John Bolden	do	do	Defective flue	10	10
175	June 18		10.55	237	1516 Twelfth street northwest.	Samuel Carter	do	do	Lamp explosion		

176	June 19	2. 10	47	631 Four-and-a-half street south-west.	S. Leiskinsky	Clothing store.....	Brick.....	Unknown	25	25
177	June 21	6. 14	435	Ninth and I streets southwest	Wimsatt & Uhler	Lumber yard	Frame	Incendiary	500	.....
178	June 23	.....	129	921 D street northwest.	F. G. Guindon.....	Dwelling	Brick.....	Gasoline explosion.....	200	200
179	June 25	12. 57	427	1220 Union street southwest	Thomas O'Conner	Stable	Frame	Incendiary .....	.....	.....
180	June 26	.....	62	38 I street northwest	T. Cavanaugh	Dwelling	Brick	Fire crackers.....	50	50
181	June 27	.....	612	Second and E streets northeast	Mary Green	do	Frame	Lamp explosion	150	.....
182	June 28	4. 21	12	First and D street northwest	J. F. Killman & others	Dwellings and wood sheds.	Frame and brick.	Incendiary	720	475
183	June 28	10. 20	12	110 D street northwest	William M. Galt & Co.	Feed warehouse	Brick.....	Boys smoking cigar-ettes.	16, 000	16, 000
184†	June 28	10. 35	62	.....	.....	.....	.....	Child playing with match.	.....	.....
185	June 28	.....	16	450 Marble alley.....	Annie Williams	Dwelling	Brick.....	Hot ashes.....	15	.....
186	June 29	.....	142	708 to 712 Twelfth street and 1207 to 1215 G street northwest.	John A. Raker and others.	Wood sheds.....	Frame.....	.....	600	400
									19, 095	17, 980

Rekindling of same fire. † False alarm. ‡ Bursting a barrel of gasoline in street; accidentally fired. § Box struck by mistake of operator.

RECAPITULATION.

	Loss.	Insurance.
Loss for the year on regular alarms.....	\$292, 274	\$235, 669
Loss for the year on local alarms.....	6, 355	5, 495
Total.....	298, 629	241, 164

Local or silent alarms.

No. of fire.	Date.	Location.	Owner or occupant.	How occupied.	Style of building.	Cause.	Loss.	Insur- ance.
1	1886. July 26	Fifteenth and E streets northwest	Albaugh	Theater	Brick	Electric wire		
2	Aug. 18	South Capitol and H streets southwest	Baltimore and Potomac Railroad.	Oil tank	Iron	Sparks	\$10	
3	Sept. 13	479 L street southwest	William Jackson	Dwelling	Frame	Upsetting lamp		
4	Sept. 24	1227 Thirty-second street northwest	P. C. Merry	Variety store	Brick	Accident		
5	Oct. 17	715 Ninth street northwest	James Smith	Dwelling	do	Chimney		
6	Oct. 18	921 Pennsylvania avenue northwest	Woodward & Lothrop	Dry-goods store	do	Defective flue		
7	Oct. 24	Sixteenth and B streets southwest		River bank	do	Burning leaves		
8	Oct. 31	Fourteenth and B streets southwest	United States Govern- ment.	Coal shed	Frame	Hot ashes		
9	Nov. 3	715 Fifth street northwest	Joseph H. Daniels.	Dwelling	do	Stove	15	\$15
10	Nov. 3	324 Four-and-a-half street southwest	J. P. Herman	Variety store	do	Gas jet	5	5
11	Nov. 12	499 H street northwest	C. Buckley	Dwelling	do	Defective flue		
12	Nov. 21	1112 M street northwest	Samuel Reeves	do	Brick	Latrobe	5	5
13	Nov. 21	1146 Nineteenth street northwest	Sarah Lucas	do	Frame	Chimney		
14	Nov. 22	620 Twenty-second street northwest	R. Collins	do	do	Hot ashes		
15	Dec. 18	3220 M street northwest	Washington and George- town Railroad Com- pany.	Depot	Brick	Carelessness		
16	Dec. 24	Thirteenth, between K and S streets, north- west.	Women's Christian As- sociation.	Home for homeless	do	Escaping steam		
17	Dec. 24	931 Pennsylvania avenue northwest	Barnum & Co.	Clothing store	do	Electric wire		
18	Dec. 25	Eighteenth street and Champlain avenue northwest.	Quackenbush & Co.	Blacksmith shop	Frame	Incendiary	150	
19	Dec. 27	1106 D street northwest	Barton & Co.	Dime museum	Brick	Defective flue		
20	1887. Jan. 2	815 Sixth street northwest	W. C. Johnston	Dwelling	do	Latrobe	5	5
21	Jan. 3	416 Seventh street northwest	Charles Baum	Dry-goods store	do	Defective flue	15	15
22	Jan. 4	1035 Thirty-first street northwest	George Estler	Dwelling	do	Stovepipe	5	5
23	Jan. 8	1557 N street northwest	Gen. Becker	do	do	Chimney		
24	Jan. 9	218 I street northwest	C. W. Thorn	do	do	Gas meter explosion		
25	Jan. 10	1018 Fifteenth street northwest	R. T. Mathews	do	do	Smoky chimney		
26	Jan. 14	1006 New Hampshire avenue northwest	W. H. Schuder	do	do	Chimney		
27	Jan. 17							
28	Jan. 20	Alley between M and N and Twenty-fourth and Twenty-fifth streets northwest.	Adam Porten	Dwelling	Frame	Stove		
29	Jan. 29	Seventh and F streets northwest	United States Govern- ment.	Interior Department	Stone	Defective flue		
30	Jan. 29	1901 N street northwest	Thomas H. Ward	Dwelling	Brick	Hot ashes	15	15
31	Jan. 29	1016 Fifteenth street northwest	L. Anderson	do	do	Child playing with match	25	25
32	Jan. 30	1605 I street northwest	J. J. Bernard	do	do	Accident	40	

			S. W. Glenn. T. R. Sanders.	Jeweler's store Private school	Smoky stove. Smoky chimney		
33	Feb. 5	402 Ninth street northwest					
34	Feb. 16	Seventeenth street and Massachusetts avenue northwest.					
35	Feb. 19	1202 E street northwest.	M. Bruble	Dwelling	Accident	15	15
36	Feb. 20	1201 Pennsylvania avenue northwest	Davis' Sons	Hat store	Defective flue		
37	Feb. 20	1141 Nineteenth street northwest	Kate Butler	Dwelling	Chimney		
38	Feb. 21	Fourteenth street and Ohio avenue northwest	J. Davidson	do	Carelessness		
39	Feb. 22	1016 Seventeenth street northwest.	M. Lee	do	Latrobe		
40	Feb. 25	1521 K street northwest	George B. Loring	do	Chimney		
41	Mar. 4	407-409 Six-and-a-half street southwest	Harrigan & Gregory	do	Defective flue	10	10
42	Mar. 9	1347 Connecticut avenue northwest.	C. S. Fairchilds	do	Chimney		
43	Mar. 12	906 I street southwest.	C. Tupple	do	Lamp explosion		
44	Mar. 17	3132 M street northwest	T. A. Newman	do	Carelessness		
45	Mar. 17	222 Delaware avenue northeast	G. Gosben	do	Accident	5	
46	Mar. 17	New Jersey avenue and C street northwest.	Baltimore and Ohio Railroad Company.	Locomotive cab	Sparks	30	
47	Mar. 25	911 Rhode Island avenue northwest.	John Tweedale	Dwelling	Tinner's pot		
48	Mar. 29	1818 Jefferson Place northwest	Frank Reeves	do	Chimney		
49	Apr. 4	Potomac and Grace streets northwest.	R. L. Cropley	Office	Incendiary	5	
50	Apr. 8	Alley between Second and Third and E and F streets southwest.	R. Cumming	Dwelling	do	20	20
51	Apr. 16	419 Tenth street northwest	Endowment Life Insurance Company.	Office	Furnace		
52	Apr. 26	427 Sixth street southwest.	L. Richold	Dwelling	Incendiary	100	100
53	Apr. 26						
54	Apr. 27						
55	May 1						
56	May 6	607 Second street southwest.	G. Washington	Dwelling	Lamp explosion	20	
57	May 11	Mount Pleasant	Dr. A. Baldwin	do	Defective flue	5, 150	5, 150
58	May 16	1407 Thirty-second street northwest.	Copperhite & Co.	Bakery	Incendiary		
59	May 15	2928 P street northwest	Dr. W. B. Tyler	Dwelling	Defective flue		
60	May 17	1401 New York avenue northwest.	M. J. Colley	Hotel	Defective pipe	10	10
61	June 1	Sixteenth and B streets northwest	Drill committee	Drill grounds	Fireworks		
62	June 2	1324 D street northwest	S. Lewis	Dwelling	Waste paper		
63	June 6	318 Thirteen-and-a-half street northwest.	Joseph Vincinovich	Grocery	Accident	100	100
64	June 21	Howard University grounds	Henry Taylor	Dwelling	Defective flue	600	
65	June 25	Thirtieth and Q streets northwest.			Burning tar		
		Total				6, 355	5, 495

* Bonfire.

† False alarm.

342 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

You will find the loss for the year on local fire to be rather more than usual. This increase is caused by two fires, one occurring May 11, at Mount Pleasant, the burning of Dr. A. Baldwin's residence, loss \$5,150; the other on June 21, the burning of a two-story frame dwelling just north of Howard University, owned by Henry Taylor; loss \$600. These houses were both entirely destroyed for the reason that there was no water facilities within reach of the fire department.

Different causes of fires and alarms from July 1, 1886, to June 30, 1887.

Cause.	Number.	Cause.	Number.
Fire-crackers	2	Christmas trees	2
Incendiary	37	Waste paper	1
Electric-light wires	3	Latrobe stoves	7
Accident	25	Defective hearths	1
Carelessness	11	Children playing with matches	9
Chimneys	21	Tinners' soldering pot	2
Stove-pipes	6	Defective building	1
Unknown	10	Wood fire-board	1
Escaping steam	2	Breaking lamp	1
Spontaneous combustion	6	Bursting barrel of gasoline	1
Defective flues	24	Mistake of fire-alarm operator	2
Stoves	12	Boys smoking cigarettes	1
Benzine explosion	3	Sparks from locomotive	1
Sparks from chimney	5	Upsetting lamp	1
Lamp explosions	11	Burning leaves	1
Cigar stump	1	Ash piles	1
Furnace	4	Gas meter	1
Defective stove-pipe	1	Smoky stove	1
Rats nibbling matches	2	Defective pipe	1
Gas jets	2	Fire-works	1
Hot ashes	9	Burning waste	1
Tar kettles	2	False alarms	13
Oil-stove explosions	1		

N.

REPORT OF THE MAJOR AND SUPERINTENDENT OF METROPOLITAN POLICE.

METROPOLITAN POLICE DEPARTMENT,
Washington, D. C., August 1, 1887.

SIRS: Pursuant to your order of the 13th of July last, I have the honor to submit a full report of the transactions of this department during the past fiscal year; also estimates of the amounts necessary for its support for the fiscal year ending June 30, 1889.

The expenditures for the past fiscal year were:

	Expended	Appropriated.
Pay-roll	\$317,453.40	\$318,980.00
Contingent expenses	9,647.13	10,000.00
Fuel	1,823.64	2,000.00
Rent	1,200.00	1,200.00
Repairs to stations, including cells at police court	1,996.21	2,000.00
Reconstructing cells	598.50	600.00
Police signal system	4,475.00	4,500.00
Total	337,193.88	339,280.00
In addition there were expended for the relief of the poor, from funds furnished by the Commissioners	2,055.93	2,100.00
For transportation of paupers and prisoners	2,868.62	4,000.00

The estimates for the next fiscal year are as follows:

One superintendent	\$2,600
One assistant superintendent	2,100
One chief clerk, also to be property clerk	2,100
One clerk	1,500
Two clerks, at \$900	1,800
Two inspectors, at \$1,500	3,000
Four surgeons, at \$600	2,400
Special service in prevention and detection of crime	1,440
Eight captains, at \$1,500	12,000
Thirty sergeants, at \$1,200	36,000
One hundred and sixty privates, class 1, at \$900	144,000
One hundred and eighty-five privates, class 2, at \$1,080	199,800
Seventeen station clerks, at \$900	15,300
Eight laborers, at \$480	3,840
One messenger	700
One messenger	500
One superintendent, mounted	240
One assistant superintendent, mounted	240
Forty five captains, sergeants, and privates, mounted, at \$240	10,800
One ambulance driver	600
One assistant driver	360
One van driver	360
Five patrol drivers, at \$420	2,100
Rent, police headquarters and Anacostia station	1,200
Fuel	2,000

344 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

For purchase of a lot and the erection of a station-house, and furnishing same, in northeast Washington.....	\$15,600
Additional story to first precinct station-house.....	4,500
Remodeling station-house, erection of stable, and building for cells and lodging-rooms in third precinct.....	9,000
Remodeling station-house and erection of building for cells and lodging-rooms in fifth precinct.....	7,000
Appliances for heating water and drying in six station-houses, at \$150	900
Repairs to station-houses	2,000
Miscellaneous and contingent expenses, including stationery, books, telegraphing, photographs, printing, binding, gas, ice, washing, meals for prisoners; furniture, repairs to same; beds and bed clothing, insignia of office, horses, police equipments and repairs to same, harness, forage, repairs to van, ambulance and patrol wagons, and expenses incurred in the prevention and detection of crime	16,500
Police signal and telephone system in third precinct, including horses and wagon.....	4,500
Total.....	506,980

CHANGES AND INCREASES.

The estimates provide for a moderate increase of annual salaries, as follows:

Of the captain, whose title should be assistant superintendent, from \$1,800 to \$2,100; of the chief clerk, from \$1,800 to \$2,100; of the four surgeons, from \$480 to \$600; of the eight lieutenants, whose rank should be increased to that of captain, from \$1,320 to \$1,500; of the sergeants, from \$1,140 to \$1,200; of the seventeen station keepers, who in the estimates are designated station clerks, from \$720 to \$900; of the ambulance driver, from \$480 to \$600; and of the patrol drivers, from \$360 to \$420.

WORK AND PAY.

The increase of salaries thus recommended requires but brief explanation. The captain, as the proposed title of assistant superintendent implies, has control of the department in the temporary absence of the superintendent. He is, besides, charged with the inspection of the several station houses and of the police force of each precinct; sees to the enforcement of the orders, rules, and regulations; instructs the members of the force as to their powers and duties, and is the president of the committee for the trial of policemen charged with offenses against the manual. It is respectfully submitted that he is justly entitled, by virtue of his important position and its varied duties, to the small increase of pay herein recommended.

CHIEF CLERK (ALSO PROPERTY CLERK).

The chief clerk has not only charge of the clerical force of the department, but is also responsible, under heavy bond, for the care and disposition of all lost, stolen, and abandoned property coming into the possession of the police. His work is onerous, and requires experience, integrity, and ability. He has as assistants only one clerk and two privates of the force, necessarily detailed to aid in current work. It is true that existing appropriations provide for another clerk, at an annual salary of \$900, who, however, has never, since his appointment, performed duty in this department. It is respectfully suggested that his salary should be embraced in the estimates of the particular branch of the District government in which he is employed, and that the two clerks of his grade asked for in this report should be permitted to per-

form service exclusively in this office. The two patrolmen would then become available for their proper duties.

During the past five years the work of this department has doubled, and yet its present clerical force is less than it was ten years ago.

SURGEONS AND LIEUTENANTS.

This is also true as to the labors devolving upon the surgeons and lieutenants. There are but four surgeons for the entire force, and it is their duty also to attend professionally the members of the fire department.

The lieutenants, upon whom it is proposed to confer the grade of captain, have charge of extensive precincts, and are responsible for a large amount of property, and a satisfactory administration of their respective commands. They occupy in every respect corresponding positions to those of captains in other large cities, as is shown by the following table:

Locality.	Chief.	Assistant.	Captains.	Lieutenants.	Detectives.	Sergeants.	Roundsmen.	Patrolmen.	Total.	Area.	Arrests made.
District of Columbia...	1	.....	1	10	*6	20	.....	230	277	72	19,975
Saint Louis	1	.....	6	.....	11	45	.....	468	531	62½	18,851
Chicago	1	1	5	27	*30	63	.....	650	777	35	40,998
Cleveland	1	1	4	14	7	10	.....	169	206	26½	6,882
New York	1	3	34	.....	.....	192	177	2,396	2,803	41	74,315

* Patrolmen in plain dress.

PAY.

Locality.	Chief.	Assistant.	Captains.	Lieutenants.	Detectives.	Sergeants.	Roundsmen.	Patrolmen.
District of Columbia	\$2,600	.....	\$1,800	\$1,320	\$1,320	\$1,140	.....	\$900
Do .....	.....	.....	.....	.....	.....	.....	.....	1,080
Saint Louis	3,500	.....	1,800	.....	1,200	1,200	.....	900
Chicago	4,500	\$3,000	2,000	1,700	.....	1,200	.....	900
Do .....	.....	.....	.....	1,500	.....	1,102	.....	1,000
Cleveland	2,150	1,500	1,400	1,000	1,000	950	.....	840
New York	6,000	3,500	2,750	.....	.....	1,600	\$1,200	1,000
Do .....	.....	.....	.....	.....	.....	.....	.....	1,100
Do .....	.....	.....	.....	.....	.....	.....	.....	1,200

SERGEANTS.

The organic act of the police department, passed in 1861, provides for only twenty sergeants. Ten more are really requisite, and to supply this need ten privates have been detailed as acting sergeants, without extra pay. It is hoped that these appointments may be made permanent, and that an addition of \$5 per month will be accorded officers of this grade, who now receive only \$60 per year more than privates of the second class.

STATION-KEEPERS OR CLERKS.

The station-keepers, whose designation should be station clerks, receive less pay in proportion to the labor they perform than any other employes of this department. Twelve hours of duty (five more than

those of a Government clerk) are exacted of them daily. They are responsible for the safe keeping of prisoners and of all property committed to their care, and have charge of records which require accuracy as well as clerical ability.

DRIVERS.

The compensation allowed the drivers is inadequate to the work demanded of them. Their hours are practically without limit, and much depends upon their proper care of the horses and vehicles largely in their charge.

RECONSTRUCTION OF STATION-HOUSES.

For the proper accommodation of the number of men now assigned to the first precinct additional sleeping quarters are essential. Another story should be added to the overcrowded building, not only for the comfort but the health of the men, for to them are intrusted the care of the principal business portion of the city and the enforcement of law among the vicious element in the notorious "division."

The third precinct station-house was constructed nearly a quarter of a century ago, when the resident population of the precinct was less than one-third of its present numbers. It is totally inadequate to existing conditions, is uncomfortable, inconvenient, and unhealthy. The cells, which are separate and distinct from the main building, and therefore difficult to guard, are damp, badly ventilated, insecure, and unsuited for the purposes for which they are intended. The house needs remodeling and enlarging, and the plans should include a new building for cells and lodging-rooms. A new stable is also required, in anticipation of the extension of the patrol system to this precinct, which is earnestly recommended, as when introduced it will not only prove a great auxiliary to police operations in this portion of the city, which includes so much valuable public and private property, but materially aid their administration in the adjoining district of Georgetown.

The remarks and recommendations with respect to the third precinct station-house are applicable to that in precinct No. 5. The latter, however, has neither stable accommodations nor space for them, and without the adjoining corner lot, at present unimproved, will become unsuitable for police purposes. This ground should be purchased without delay, as doubtless, sooner or later, the patrol system will be extended to this precinct. It is true that thus far the appropriations for this indispensable police adjunct have been limited to its extension to but a single precinct during any one fiscal year. In view, however, of the very large area covered by this district, both in the city and county, it is hoped that early provision will be made for a complete police signal and telephone outfit in this rapidly-improving section.

In all the station-houses more or less repairs during the year become necessary, and therefore an appropriation is asked of \$2,000, the amount granted for the past fiscal year, to keep these buildings in good condition.

HEATING AND DRYING APPLIANCES.

It is very desirable that each station-house should have a boiler attached to the furnace, in order that hot water may be supplied for bathing purposes during the winter months. As suggested in the last annual report, the heat could also be utilized from the connecting pipes for drying the men's clothing in wet weather.

WHAT IS NECESSARY.

No police organization of any large city has ever been free from adverse criticism, and it is a matter of congratulation that but comparatively few complaints have been made against the local force, insufficient in numbers, overtaxed with work, and embarrassed for want of a code of laws applicable to and uniform throughout the entire District. This, in itself, is evidence that as a rule the many peculiar requirements of our police have been diligently and faithfully performed, notwithstanding the fact that a force averaging less than ninety men on duty at any one time is expected to patrol and protect a territory of 72 square miles, containing a population of upwards of 200,000 people. It should be remembered, in addition, that extensive public grounds have to be guarded, applications for liquor licenses investigated and reported upon; lamps, streets, sewers, hydrants, pumps, alleys, water-mains, etc., when needing repairs, reported; personal tax notices delivered; all permits for buildings, improvements, and charitable entertainments examined; fires and inquests attended; witnesses for the various courts summoned; cases of insanity attended to and disposed of; the poor relieved, the indigent sick sent to hospitals, and transportation furnished worthy applicants who are liable to become a charge upon the District. The force should be increased at least one hundred men, and not less than twenty of these should be mounted to afford better protection to the suburban districts, now being rapidly built up and populated. Should this number be granted, and the total of privates thereby increased to three hundred and fifty-five, there will then be available less than one hundred and fifty men for patrol duty at one time, making due allowance for special details and for sickness and other casualties.

I conscientiously believe that this augmentation of the force is imperatively demanded in the interest of life and property. I do not entertain the idea that to obtain what is needed more should be asked than is wanted, but, on the contrary, that the Congress of the nation will fairly consider and ungrudgingly grant whatever may be just and reasonable.

The rapid growth of the District in population and wealth, and the proud position it occupies as the seat of Government of the Republic, should induce such legislation as will here establish a police organization equal in numbers and efficiency to any in the country. That in numbers it does not favorably compare with other large cities is proved by the following statement, deduced from the latest data:

	Number of population to one po- liceman on duty.	Average number of policemen per square mile pa- trolling at any one time.
District of Columbia	2,700	1
Saint Louis	2,400	3
Boston	1,500	4
Louisville	2,142	5
Chicago	1,842	9
Cincinnati	2,625	10
Brooklyn	2,000	10
Baltimore	1,800	14
New York	1,395	23

A DEFECT.

The effectiveness of the department has been in no small measure diminished by the number of men withdrawn from street duty for special service, or by reason of disabilities incurred during long years of labor faithfully rendered. The number on detail is as follows, men not physically qualified for ordinary duty being selected for positions involving light work and little exposure :

Detective office.....	sergeant..	1
Detective office, special duty	privates..	6
Detective office, clerks	do.....	2
Executive Mansion	sergeant..	1
Do	privates..	6
Clerks' office headquarters	do.....	2
District building	do.....	4
Health office	do.....	2
Police court (1 collector)	do.....	3
Hack inspector	do.....	1
Patrol service	do.....	4
Baltimore and Ohio depot.....	do.....	1
Baltimore and Potomac depot	do.....	1
City post-office	do.....	1
Humane Society	do.....	1
Railroad junction, Fifteenth and New York avenue northwest.....	do.....	1
Workhouse, chain gang.....	do.....	2
Steam-boat wharves.....	do.....	1
Sanitary officer	do.....	1
Total	members..	41

The custom of detailing men for positions which are not strictly in the line of their regular duties should not be allowed to become so deeply rooted as to attain permanency. Watchmen for the Executive Mansion and the District buildings, bailiffs for the police court, and assistants for the health office should certainly not be taken from our limited force.

It goes without saying that the disabled should be retired and their places filled by capable men. At present, however, the condition of the policemen's relief fund will not warrant further drafts without affecting the principal, which the department has been striving to maintain and increase.

According to the report of the Treasurer of the United States, who is *ex-officio* commissioner of the sinking fund of the District of Columbia, the status of the policemen's fund on the 1st day of August, 1887, was as follows :

August 1, 1887, District of Columbia 3.65 per cent. bonds.....	\$27,350.00
August 1, 1887, United States 4 per cent. bonds	1,200.00
August 1, 1887, cash.....	268.34
July 1, 1886, District of Columbia 3.65 per cent. bonds.....	\$23,350.00
July 1, 1886, cash	4,136.98
	27,486.98
August 1, 1887, accumulation to principal	
	1,331.36
The pay-roll now contributes \$287 per month to this fund, or per year....	
The interest on the present principal amounts to	3,444.00
The deposits made by the chief clerk the past year exceeded those of the year before \$572.73; but should the present number of violations of the rules continue, the deposits from this source for the ensuing year may be estimated at.....	1,046.27
Total.....	1,800.00
	6,290.27

Against the pension-roll drafts are now as follows:

Gorman heirs.....	per month..	\$50. 00
Crump, D. F.....	do.....	50. 00
Milstead, R. A.....	do.....	30. 00
Kearney, S. L.....	do.....	40. 00
Nokes, G. W.....	do.....	50. 00
Powell, William.....	do.....	30. 00
Harper, J. G.....	do.....	30. 00
Atchison, H. L.....	do.....	25. 00
Kearney, Patrick.....	do.....	50. 00
Shelton, Joseph.....	do.....	50. 00
		405. 00
Draft per annum.....		4,860. 00
Estimated accumulation to principal.....		1,430. 27

Under the provisions of the law of 1885, in case of death of a member of the force, \$75 are allowed from this fund toward funeral expenses; so it will be seen that the accumulation would not permit the retirement of two additional members at the rate of \$50 per month. As the fund is now taxed to its full capacity, it is suggested that if Congress would appropriate an amount equal to that contributed by the force, each member of which is assessed at the rate of \$1 per month, the disabled might be gradually retired.

THE ARMY AND NAVY CLAUSE.

It is declared in an act of Congress approved March 2, 1867, that "No person shall be appointed as policeman or watchman who has not served in the Army or Navy of the United States and received an honorable discharge." An opinion of the supreme court of the District has been construed by the attorney as in effect holding that this provision is no longer binding; but the case in which that opinion was rendered is now on appeal to the Supreme Court of the United States, and pending that appeal the requirements of the provision are still observed. It was manifestly intended to apply to men who patriotically served during the late civil war, which terminated more than twenty-two years ago. Those who participated in that great struggle are now too old in years for the activity and exposure incident to a policeman's life. As a consequence, appointments are limited to men who have enlisted and served in time of peace, and have little, if any, experience in civil affairs, and no familiarity with the peculiar and complex laws which govern the District of Columbia.

This restriction upon appointments should be removed, in order that persons may be selected who, by residence here as citizens, have acquired some knowledge of our laws, and of their application to a community composed of people representing every portion of our country.

Experience shows the difficulty of obtaining a code of laws for the District, and until this can be done a higher degree of intelligence than that possessed by the average policeman elsewhere should be required for a position on our local force.

THE NORTHEAST SECTION.

The unprotected condition of the northeastern section of the city, known as the sixth precinct, compelled the assignment to duty there of four of the ten men added to the force on the 1st of July last. A division of this precinct is respectfully urged, upon the basis of one

hundred additional men, and an appropriation for the purchase of a lot and the erection of a station-house. The people most interested have with commendable forbearance endured many risks from the lawless, and are justified in asking such police protection as will afford them a well-founded sense of security. This granted, encouragement will be given to the activity now manifested in this portion of the District, where many buildings are being erected upon waste places, which will soon teem with people.

MOUNT PLEASANT AND VICINITY.

Arrangements should also be made for the better security, in life and property, of the large population in the county portion of the eighth precinct. Along the west of the Fourteenth street road are many attractive residences, and Mount Pleasant has already assumed the proportions of a considerable village. Eastward of the road improvements have been commenced which will attract thither persons who seek homes beyond the crowded city. There is now no substation in this precinct, that at Brightwood having been necessarily abandoned the 1st of July last; and a lot should be purchased at some convenient point, and a suitable building for a substation erected and equipped as soon as an appropriation therefor can be obtained.

THE INSANE.

During the year one hundred and thirty-four persons have been committed to the care of the Government Hospital for the Insane, under the act of Congress approved February 28, 1861, requiring the certificate, under oath, of two respectable resident physicians, that "from personal examination they believe him or her to be insane, and a fit subject for treatment in said hospital." It is held, however, by the supreme court of the District of Columbia, that this statute gives no power to commit a person *in invitum* who has not been judicially found to be insane, and that commitments to the hospital are regulated in this District by an act of the State of Maryland of 1785, which makes a trial by jury, as therein prescribed, a condition precedent to a legal commitment of an insane person against his or her will. It is further held by the court that the act of Congress only opens the doors of the hospital to those who have been judicially found to be insane, and that if it meant anything else it would be unconstitutional.

It therefore follows, under this decision, that whenever a person sought to be committed is unwilling to go to that institution, a writ must be issued and a jury trial had as to his sanity. As a result, much embarrassment is experienced in such cases by this department, not the least of which is the alternative that a person reasonably suspected of being dangerously insane must, without any specific authority of law, be detained until and during trial in the cell of a station-house, or else be permitted to go at large, to the danger of life and property. Upon advice of the attorney of the District, the responsibility has been assumed of keeping in custody persons suspected of dangerous insanity; but it is submitted that legislation covering this whole subject is desirable.

THE POLICE POWERLESS.

Numerous earnest appeals have been made against pool-rooms of every description. The wife represents that her husband spends there all his earnings, leaving his family to misery and want. The mother

tearfully complains that her son, infatuated with the hope of gain, has even resorted to theft to obtain means to indulge his thirst for gambling. Some legislation would seem necessary to remove from our midst such evil influences, so seriously affecting not only the adult but the inexperienced youth.

THE POLICE COURT.

The increased number of arrests has added largely to the work of the police court, and prolonged its daily sessions. Officers who should be on patrol or taking needful rest are detained the better part of the day in attendance upon this tribunal. The demoralizing effect upon discipline and efficiency can hardly be overestimated, and some remedy should be devised for this condition of affairs, growing worse yearly.

DELAYED JUSTICE.

It is also a matter of regret that appeals from the police court to the supreme court of the District of Columbia do not receive more prompt attention. Many cases are lost by reason of delays in their hearing, due mainly, I am informed, to the fact that United States cases of necessity have priority, and often involve protracted trials. No appeals from the police court have been brought to trial for several months, but it is hoped that by arrangement between the United States attorney and the attorney of the District, a sufficiently prompt disposition of such cases will hereafter be made to accomplish the ends of justice.

IN CONCLUSION.

Attention is invited to the accompanying reports of the property clerk, the sanitary officer, the board of surgeons, and Private C. W. O'Neill, who has been detailed to assist the Humane Society. These documents show that the estimated value of money and property which during the year came into the possession of the police from all sources, and were returned to the owners, the assessor, the poundmaster, and property clerk, was \$205,353.10; that 2,154 persons were sent to hospitals and other eleemosynary institutions; that transportation was furnished 531 persons liable to become a charge upon the District of Columbia; and that the cases of arrest aggregated 19,975, of which 9,156 were colored.

I may add that the statistics of the year have been carefully collated, more than ordinary efforts having been made to attain completeness and accuracy.

Respectfully submitted.

WM. G. MOORE,

Major and Superintendent Metropolitan Police, District of Columbia.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

METROPOLITAN POLICE DEPARTMENT,
OFFICE OF PROPERTY CLERK,
Washington, D. C., August 1, 1887.

SIR: In view of the increased interest manifested by the public generally, and statisticians particularly, in figures bearing upon crime, at your suggestion I have departed from the tabulated forms for some years in vogue in this department, and present herewith statements more in conformity with public requests for information. A decrease will be observed in the aggregate number of cases, as against the year

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preceding, although Professor Wines, the criminal statistician of the Government, in connection with the last census, conclusively reports an annual increase of crime throughout the country.

The amounts received as fines in the police court are inaccurate, in this, that frequently the court modifies or annuls the original penalty imposed, after the department has received the reports of the first judgment of the court, as made by the officers interested in the cases, who have no means of knowing that such changes have been made. Then, again, in some cases the court permits of fines being paid in installments, which not only adds to the work of their collection, but often makes a departure from our reports in the general results. A report of the operations of the police court, showing final disposition of United States and District cases, would rectify discrepancies.

ESTRAYS.

The recommendation made by this office a year ago, placing the care of stray animals in the police stables, has been carried out, the first year resulting in a saving of \$46 to the policemen's fund, and proving far more satisfactory to the owners of stock than the old regulation.

COLLECTIONS.

The financial statement of fines, rewards, etc, imposed and collected, makes a gratifying exhibit. Included in this statement is a collected judgment, rendered in my favor, for \$209.10.

BETTER SECURITY REQUIRED.

The greater portion of the property which finds its way into the custody of this office is made up of the dilapidated personal estates of suicides, or the abandoned effects of persons insane. This, with large quantities of miscellaneous articles, is stored in rooms of the headquarters' building, exposed to moth and damp, and in case of fire, not only would this "entire stock in trade" be destroyed, and in many cases issues in the courts become embarrassed thereby, but the records of the department would probably share a like fate. Fire-proof vaults are needed for the proper keeping of property and records.

LOST REVOLVERS.

June 30, 1886, from revolver fines, balance	\$14. 18
June 30, 1887—	
Edelin revolver, lost	15. 00
Mathews revolver, lost.....	15. 00
Weedon revolver, lost.....	15. 00
Hensey revolver, lost.....	15. 00
June 30, 1887—	74. 18
To Edelin revolver, remitted.....	\$15. 00
To Weedon revolver, purchased	15. 00
To repairs	12. 00
To express.....	1. 46
Uncollected.....	5. 00
	48. 16
Cash on hand	
	25. 72

POLICE RELIEF ASSOCIATION.

June 30, 1887—	
Paid heirs R. S. Jones, deceased	\$328. 00
Paid heirs M. Ryan, deceased.....	322. 00
Paid heirs M. B. Chester, deceased.....	345. 00
Paid heirs Grafton Harper, deceased.....	344. 00
On hand, heirs Sergeant Hughes, deceased.....	345. 00

The variation in the amounts paid is accounted for by the dismissals and increase in membership, as shown by the record of receipts and disbursements and receipts of claimants.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 353

Estimated value of property and money lost, stolen, and abandoned, returned to the property clerk.

	Received.	Returned to owners.	Sold at auction.	Balance on hand.
1886.				
July	\$508.80	\$483.05	\$3.00	\$22.75
August	1,009.10	538.27	415.50	55.33
September	1,580.10	1,517.95	.....	62.15
October	1,508.78	1,262.10	.....	246.68
November	993.15	928.50	.....	64.65
December	3,956.70	3,843.10	.50	113.10
1887.				
January	6,614.94	6,516.77	.....	98.17
February	5,995.99	5,913.65	.....	82.34
March	2,104.95	2,012.32	.....	92.63
April	1,529.23	1,383.98	.....	145.25
May	3,690.82	318.20	.....	3,372.62
June	1,712.47	1,369.00	.....	343.47
Total	31,205.03	26,086.89	419.00	4,699.14

CASH.

Amount of fines and rewards imposed and collected during the fiscal year 1887.

1886.		
June 30.	Balance uncollected	\$54.00
1887.		
June 30.	Amount fines imposed	1,060.00
	Amount fines imposed, time lost	105.78
	Amount rewards received	276.00
		<u>\$1,495.78</u>
1887.		
June 30.	Amount fines, rewards, time collected	1,092.58
	Amount rewards allowed officers	5.00
	Amount rewards, one-half allowed officers	130.50
	Amount fines, time, lost by dismissals	37.70
	Balance uncollected	230.00
		<u>1,495.78</u>
1887.		
June 30.	Amount fines, rewards, etc., collected	1,092.58
	Amount property sales	383.39
	Amount judgment, Hoile-Sylvester	206.10
	Amount police excursion receipts	923.05
		<u>2,605.12</u>
1887.		
June 30.	Amount paid advertising sale	4.20
	Amount paid Price-Livery-Hoile case	3.00
	Amount paid uniform, Jones <i>et al.</i>	18.75
	Amount paid advertising proposals	13.80
		<u>39.75</u>
	Balance	<u>2,565.37</u>

Deposits.

1886.		[Amount to assessor; District of Columbia, for police fund.]
August 5		\$67.03
September 8		51.78
October 2		203.10
October 11		42.26
November 5		30.00
December 6		70.13
1887.		
January 6		446.89
February 3		107.67
March 10		105.00
April 4		119.00
May 5		175.50
June 1		923.05
June 8		140.00
July 8		83.96
		<u>2,565.37</u>

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In this connection I would state that the old records of the department have been indexed up to the present time, and that new records have been opened during the past year to comply with the requirements of the new facilities added to the department.

The following tabulated information is gathered from the records of the office.

Respectfully,

RICHARD SYLVESTER,
Property Clerk.

Maj. WILLIAM G. MOORE,
Superintendent of Metropolitan Police, District of Columbia.

COMMUNICATIONS.

Communications received from July 1, 1886, to June 30, 1887.....	5,987
Communications sent from July 1, 1886, to June 30, 1887	3,319

ORDERS.

General orders issued	69
Special orders issued.....	1
Circulars issued.....	27

CHANGES IN THE FORCE.

1886.		
June 30. Full complement		267
1877.		
June 30. Resigned	6	
Dismissed	15	
Retired on pension.....	3	
Died	3	
		27
		240
Increase by act of Congress	10	
Vacancies	27	
		277
Total force		277
Appointments		37

No. 1.—Disposition of the force.

Precincts.	Major and superintendent.	Captain and inspector.	Lieutenants.	Sergeants.	Privates.	Detailed.	Total.
First	1	1	1	2	42	7	47
Second			1	2	27	2	30
Third			1	2	26	4	29
Fourth			1	1	31	0	33
Fifth			1	3	31	5	35
Sixth			1	3	35	0	39
Seventh			1	4	23	8	28
Eighth			1	2	22		25
Lieutenant and night inspector			1				1
Collector police court					*1		1
Detectives			1	1	*6		8
Sanitary					*1		1
Total	1	1	10	20	245	*33	277

Nb. 2.—Time lost by sickness and other causes (days).

Precincts.	Sick or disabled.	Absent with leave.	Absent without leave.	Sus-pended.	Days.
First	669	268	13	.....	950
Second	566	235	.....	1	802
Third	529	249	4	.....	782
Fourth	429	333	6	.....	768
Fifth	646	243	17	.....	906
Sixth	539	283	2	75	899
Seventh	367	244	.....	.....	641
Eighth	223	250	1	.....	474
Detectives	24	14	.....	.....	38
Sanitary .....	.....	.....	.....	.....	.....
Total	4, 022	2, 119	43	76	6, 260

DISCIPLINE.

Total number of trials of members of the force for violation of the rules and regulations, dismissals, and resignations, for the fiscal year ending June 30, 1887 :

Neglect of duty	9
Violation rules 135 and 138 of Manual	18
Violation rule 41 of Manual	1
Violation rule 135 of Manual	27
Violation rule 33 of Manual	1
Violation rules 36 and 138 of Manual	2
Violation rules 36, 135, and 138	4
Violation rule 111	1
Violation rule 36	4
Violation rule 36, neglect of duty, and conduct unbecoming officer	1
Violation sections 1 and 9, paragraph 9, of Manual	1
Violation sections 3 and 7, of paragraph 9, of Manual	2
Violation sections 7 and 9, of paragraph 9, of Manual	2
Violation of major and superintendent's order of October 28, 1884	1
Violation of General Order No. 65	1
Violation of section 2, of paragraph 9, of Manual	1
Violation of section 3, of paragraph 9, of Manual	2
Violation of section 7, of paragraph 9, of Manual	2
Disability	3
Non-payment of debt	3
Intoxication and conduct unbecoming an officer	5
Intoxication	5
Conduct unbecoming an officer	10
Neglect of duty and conduct unbecoming an officer	3
Absent from duty without leave	1
Gross neglect of duty	1
Gross inefficiency	1
Absent without leave and conduct unbecoming an officer	1
Insubordination and conduct unbecoming an officer	1
Total	106

DISPOSITION.

Fined	41
Cantioned	1
Dismissed	11
Acquitted and charges dismissed	36
Required to pay debt	3
Fined and reprimanded	8
Reprimanded	3
Retired on pension	3
	106

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No. 3.—Table showing number of arrests in each precinct.

Precincts.	Males.	Females.	Total.
First	4,108	658	4,766
Second	1,413	321	1,734
Third	1,588	286	1,874
Fourth	2,770	730	3,500
Fifth	1,336	194	1,530
Sixth	2,663	387	3,050
Seventh	958	182	1,140
Eighth	1,559	371	1,930
Sanitary	388	63	451
Detectives			
Total	16,783	3,192	19,975

White, 10,819; colored, 9,156.

CASUALTIES REPORTED.

Accidents	407
Attempts at suicide	17
Assistance rendered	271
Animals taken up	322
Animals to poundmaster	62
Animals to property clerk	43
Abandoned infants	33
Dead infants	70
Dead animals	3,907
Dangerous pavements	724
Dangerous holes	528
Doors and windows open	315
Dangerous buildings	29
Damaged trees and boxes	277
Deaths, coroner notified, no inquests	121
Fire plugs	59
Filthy alleys }	147
Filthy gutters }	
Fountains	35
Found sick on the street	144
Hydrants	555
Lamps damaged	454
Lamps not lighted	889
Lodgers accommodated	4,198
Pumps	453
Permits, examined, B	1,079
Permits, examined, M	2,008
Sewers	246
Suicides	16
Telegraph messages	42,065
Water mains	162

Disposition of cases where fines imposed.

Amount fines, United States cases.....	\$14,519.57	Amount fines, District of Columbia cases	\$33,769.56
Amount fines, United States cases:		Amount fines, District of Columbia cases:	
Paid	9,940.57	Paid	20,254.56
Appealed	638.00	Appealed	2,678.00
Personal bonds	22.00	Personal bonds	100.00
Ex-suspended	15.00	Ex-suspended	435.00
Sent to jail	3,904.00	Sent to workhouse	10,302.00
	14,519.57		33,769.56

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 357

Estimated value of money and property coming into the possession of the police from all sources during the fiscal year 1857.

Amount received	\$205, 353. 10	Amount returned owners.....	\$143, 453. 38
		Amount returned property clerk ...	31, 205. 03
		Amount returned poundmaster	385. 00
		Amount returned coroner	275. 21
		Amount collateral, deputy marshal ..	10, 445. 03
		Amount collateral, collector of police court ..	19, 489. 45
		Amount collateral, assessor, District of Columbia	100. 00
	205, 353. 10		205, 353. 10

NUMBER OF LARCENIES, ETC , REPORTED.

Larcenies	2, 028
Housebreaking, night	303
Housebreaking, day	19
Grand larceny	167
Petit larceny	1, 289
Larceny from person	68
Larceny from United States Government	5
Highway robbery	20
Embezzlement	19
False pretenses	30
Forgery	8
Murder	13
Lost or mislaid	87
	2, 028

Amount reported lost or stolen.....	\$57, 777. 00	Amount recovered	\$30, 583. 43
Amount reported lost or mislaid.....	8, 355. 00	Amount not recovered	18, 838. 57
	49, 422. 00		49, 422. 00

Disposition of offenses against the person and property.

Offenses.	Under 10, males.										
	Fines paid.	Work-house, in de-fault.	Jail.	Work-house.	Reform School.	Bonds.	Parents or guardian.	Personal bonds.	Industrial School.	Orphan Asylum.	Nolle pros.
<i>Against the person.</i>											
Affray								1			
Assault	1							1			2
Assault and battery	3							1			
Assault and battery with intent to kill								2			
Disorderly conduct							2				
Fugitive from parents										1	
Fugitive from Orphan Asylum									3		
Fugitive from Industrial School				2	2			1			1
Incorrigibility								1			
Indecent assault								1			
Profanity		5						1			
Vagrancy											
<i>Against property.</i>											
Destroying private property								1			1
Grand larceny								1			2
Housebreaking, night											1
Malicious mischief			1		1	2		3		5	4
Petit larceny	3										7
Suspicion											1
Trespass											1
Violation of District of Columbia or-dinances	6							2			3
Total	13	5	1	2	3	2	2	14	3	1	28

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Disposition of offenses against the person and property—Continued.

Offenses.	Under 10, females.				Total males.	Total females.	Grand total.
	Jail, in default.	Parents or guardian.	Personal bonds.	Dismissed.			
<i>Against the person.</i>							
Affray					1	.....	1
Assault					4	.....	4
Assault and battery	1			3	10	4	14
Assault and battery with intent to kill					1	.....	1
Disorderly conduct				1	3	1	4
Fugitive from parents		2			2	2	4
Fugitive from Orphan Asylum					1	.....	1
Fugitive from Industrial School					3	.....	3
Incorrigibility					6	.....	6
Indecent assault					1	.....	1
Profanity					1	.....	1
Vagrancy					6	.....	6
<i>Against property.</i>							
Destroying private property					3	.....	3
Grand larceny					3	.....	3
Housebreaking, night					1	.....	1
Malicious mischief					1	.....	1
Petit larceny			1		19	1	20
Suspicion				1	7	1	8
Trespass					2	.....	2
Violation of District of Columbia ordinances					11	.....	11
Total	1	2	1	5	86	9	95

Offenses.	Under 21, males.													
	Fine paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Reform School.	Appealed.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	Delivered to Mary-land authorities.	Delivered to Virginia authorities.
<i>Against the person</i>														
Affray	60		12							12	19	35		
Assault	27		16	4				1		10	7	29		
Assault and battery	108		59	27				1		26	28	123		
Assault and battery with intent to kill	3				16				1		3	4		
Assaulting policeman	1		1											
Attempt at rape											1	1		
Bigamy											1	1		
Cruelty to children														
Carrying concealed weapons	7	28			1					11		4		
Contempt of court	1									3	1	6		
Creating a nuisance	2											1		
Disorderly conduct	323	157								100	16	104		
Deserters												1		
Enticing prostitution						1								3
Fugitive from parent or guardian														
Fugitive from Reform School							6							32
Fugitive from Orphan Asylum													2	
Fugitive from Industrial School													3	
Fugitive from justice														
Fast riding or driving	7	1								3	2		1	
Habitual drunkenness										1				
Incorrigibility						1	20			6	13	14		
Infanticide														
Indecent exposure of person	11	6								2	1	1		

Disposition of offenses against the person and property—Continued.

Offenses.	Under 21, males.														
	Fine paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Reform School.	Appealed.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	Delivered to Maryland authorities.	Delivered to Virginia authorities.	Orphan Asylum.
<i>Against the person—Continued.</i>															
Indecent assault.....									1	1					
Insanity.....												1			1
Intoxication.....												273			
Intoxication and disorderly.....	62	19			1				1	1		6			
Interfering with policeman.....		1													
Keeping disorderly house.....															
Keeping bawdy-house.....															
Keeping gambling house or table.....	1														
Kidnaping a child.....												1			
Loud and boisterous.....	7	7								4		3			
Murder.....						1						1			
Perjury.....															
Profanity.....	81	49								9	2	7			
Rape.....						3						1			
Resisting United States marshal.....												1			
Refusing to pay hack hire.....					1							4			
Threats of violence.....				2					2	15	5	8			
United States witness.....												64			
Vagrancy.....		2	129			6			7	56	5	19			
Writing policy.....	4		1								1				
<i>Against property.</i>															
Arson.....						2									
Attempt at arson.....															
Cruelty to animals.....	22	11			1					2		5			
Destroying private property.....	2	5			1					6	1	5			
Destroying public property.....	2										1				
Embezzlement.....						2									
Forcible entry.....											1				
Forgery.....												3	1		
Grand larceny.....						10	1		4		8	29			
Highway robbery.....						1						2			
Housebreaking, day.....			2	3	14	1					3	2			
Housebreaking, night.....					9	4									
Larceny from the person.....				2	6	1					2	7			
Larceny from the United States.....					5										
Malicious mischief.....	3										1				
Obtaining money or goods by false pretense.....				1								1			
Petit larceny.....	37		20	150		17	4		40	37		82			
Receiving stolen goods.....	1			1	1			3							
Suspicion.....				2	24				17	15		240		3	
Trespass.....	32	15							27	6		7			
Till tapping.....									1						
Violation of District of Columbia ordinances.....	150	40							42	17		31			
Violation of liquor law.....												1			
Violation of hack law.....	2								3	1					
Violation of dog law.....										9		7			
Total.....	956	341	111	321	29	72	56	6	18	398	208	1,135	2	3	2

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Disposition of offenses against the person and property—Continued.

Offenses.	Under 21, females.												Total males.	Total females.	Grand total.			
	Fine paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Appealed.	Personal bonds.	Nolle pros.	Dismissed.	Delivered to Mary-land authorities.	House of Good Shepherd.				Par'ts or guard'ns.	Insane Asylum.	House of Mercy.
<i>Against the person.</i>																		
Affray	6		7	1				2	3	7						138	26	164
Assault	5		2	1				7	1	11						94	27	121
Assault and battery	22		18	5			1	7	11	40						372	104	476
Assault and battery with intent to kill																		
Assaulting policeman			2							1						27	1	28
Attempt at rape																2	2	4
Bigamy																2		2
Cruelty to children	1									1							2	2
Carrying concealed weapons		1								1						51	2	53
Contempt of court	1								2	6						11	9	20
Creating a nuisance								1								3	1	4
Disorderly conduct	46	57			3			18		43						700	167	867
Deserters																4		4
Enticing prostitution	1	4			3											1	8	9
Fugitive from parent or guardian													21		4	32	25	57
Fugitive from Reform School																6		6
Fugitive from Orphan Asylum																2		2
Fugitive from Industrial School																3		3
Fugitive from justice										1		4				9	5	14
Fast riding or driving																13		13
Habitual drunkenness																1		1
Incorrigibility										1		7				54	8	62
Infanticide						1											1	1
Indecent exposure of person																21		21
Indecent assault																2		2
Insanity														1		5	1	6
Intoxication										18						273	18	291
Intoxication and disorderly	6	8						2		1						90	17	107
Interfering with policeman	5								3	3						1	11	12
Keeping disorderly house			4						1								5	5
Keeping bawdy-house					1				1	1							3	3
Keeping gambling house or table																1		1
Kidnaping a child																1		1
Loud and boisterous	9	3							1	1						1		1
Murder						1										21	14	35
Perjury						1										2	1	3
Profanity	25	18						4		9							1	1
Rape																148	56	204
Resisting United States marshal																4		4
Refusing to pay hack hire		2														1		1
Threats of violence										2						5	4	9
United States witness								10	4	9						32	23	55
Vagrancy	1				57				1	23						64	23	87
Writing policy																224	61	285
<i>Against property.</i>																		
Arson						1												
Attempt at arson																2	1	3
Cruelty to animals										1							1	1
Destroying private property		2						1								41		41
Destroying public property																20	3	23
Embezzlement																3		3
Forceful entry																2		2
Forgery																1		1
Grand larceny																4		4
Highway robbery						6			4	1						52	11	63
Housebreaking, day																3		3
Housebreaking, night																20		20
Larceny from the person						2										18	2	20
Larceny from the United States																18		18
Malicious mischief																5		5
Obtaining money or goods by false pretense																4		4
Petit larceny	1																	
Receiving stolen goods	5		6	37			1	5	11	25	1					2	1	3
Suspicion									4	25						6		6
																301	29	330

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 361

Disposition of offenses against the person and property—Continued.

Offenses.	Under 21, females.														Total males.	Total females.	Grand total.	
	Fine paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Appealed.	Personal books.	Nolle pros.	Dismissed.	Delivered to Maryland authorities.	House of good Shepherd.	Par'ts or guard'ns.	Insane asylum.				House of Mercy.
<i>Against property—Continued.</i>																		
Trespass.....	2							1								87	3	90
Till tapping.....																1		1
Violation of District of Columbia ordinances.....	2				2			1	1							280	6	286
Violation of liquor law.....																1		6
Violation of hack law.....																6		1
Violation of dog law.....								1	3	4						16	8	24
Total	138	95	39	44	66	12	2	60	52	236	1	11	21	1	4	3,708	782	4,490

[illegible]

Disposition of offenses against the person and property—Continued.

	Under 40, males.																							
Offenses.	Fined and paid.	Work-house in default.	Jail in default.	Jail.	Workhouse.	Grand jury.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	Maryland authorities.	Virginia authorities.	Indiana authorities.	Returned to vessel.	Pennsylvania authorities.	Naval authorities.	Military authorities.	United States marshal.	To friends.	Insane asylum.	Workhouse.	Appealed.	Hospital.	
<i>Against the person—Cont'd.</i>																								
Refusing to pay hack-hire	5								3	42														
Sodomy						1			1										1					
Surrendered by bondsmen																								
Threats of violence	1		5	6			4	131	41	43														
United States witness									2	105														
Vagrancy	2	2			224		3	61	12	27														
Writing policy	29								3	2														
<i>Against property.</i>																								
Arson						1				1														
Attempt to steal						1			1															
Buying stolen goods				1					1	1														
Cruelty to animals	66	5						14	3	15													5	
Destroying private property	7	15						6	9	17													1	
Destroying public property										1														
Embezzlement						6			5	4					1									
Forcible entry									6															
Forgery						3						1							1					
Grand larceny						14	1	1	13	21	2	1							5					
Highway robbery			1			3			1	3														
Housebreaking, day						4			3															
Housebreaking, night				5		22			1	3									3					
Larceny from the person				1		8		1	4	6														
Obtaining goods or money by false pretenses				4		7		2	12	11	1													
Petit larceny	14		8	107		10		9	51	78	1												2	
Robbery						1																		
Receiving stolen goods										1	1													
Suspicion					18	1	2	13		222	3							1						
Trespass	29	18			1			12	6	5														
Violation of United States postal laws																								
Violation of United States internal-revenue laws						2				1									1					
Violation of shipping law														2										
Violation of United States Revised Statutes						6																		
Violation of District of Columbia ordinance	112	18						48	27	62													1	
Violation of liquor law	91	1						13	12	34													2	
Violation of building regulations	12							15	1	1													33	
Violation of water regulations	38							4	1	4														
Violation of hack law	24				1			2	3	7													1	
Violation of dog law	3	1						3	150	325														
Total	2,215	543	206	191	272	119	19	571	540	3,447	15	5	1	2		1	7	2	17	3	14	7	61	1

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 363

Disposition of offenses against the person and property—Continued.

Offenses.	Under 40, females.														Total males.	Total females.	Grand total.	
	Fined and paid.	Work-house in default.	Jail in default.	Jail.	Work-house.	Grand jury.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	To friends.	Insane asylum.	Appealed.	Hospital.				
<i>Against the person.</i>																		
Affray	13		10					5	6	7						352	41	393
Assault	22		2	4				13	8	34						194	83	277
Assault and battery	56		12	3				23		79						894	173	1,067
Assault and battery with intent to kill									1							41	1	42
Assaulting policemen	1		1						1	1						35	4	39
Attempt at rape																1		1
Bigamy																1		1
Cruelty to children	1		1							1						3		6
Criminal libel																2		2
Carrying concealed weapons	1	1								2						81	4	85
Contempt of court	3		1	2				4	2	12						60	24	84
Creating a nuisance									2	2						10	4	14
Disorderly conduct	86	66			1			24	9	53						733	239	962
Deserters																14		14
Enticing prostitution																2		2
Exhibiting obscene pictures																2		2
Fugitive from justice																19		19
Fast riding or driving					8			2		2						31		31
Habitual drunkenness																42	12	54
Indecent exposure of person	1															90	1	91
Indecent assau't										1	3	8		1		7		7
Insanity																22	13	35
Intoxication										158						1,806	158	1,964
Intoxication and disorderly	21	31					1		1	0						444	60	504
Interfering with policemen	1															1	1	2
Interfering with poundmaster																1		1
Keeping disorderly house	2			1				5								3	8	11
Keeping bawdy house	3		2						2	1						1	8	9
Keeping gambling house or table																21		21
Keeping policy shop																2		2
Loud and boisterous	7	4						2		2						23	19	42
Murder																7		7
Perjury																1		1
Profanity	80	46			1			8	5	30						517	170	687
Refusing to assist an officer																5		5
Rape																8		8
Resisting officer										1						3		3
Refusing to pay hack-hire																50	1	51
Sodomy																2		2
Surrendered by bondsmen	1															1	1	2
Threats of violence								57	2	30						231	107	338
United States witness										18						107	18	125
Vagrancy					111		1	26	1	5						331	144	475
Writing policy	1									1						34	2	36
<i>Against property.</i>																		
Arson						1										2	1	3
Attempt to steal																2		2
Buying stolen goods																3		3
Cruelty to animals	2							1								108	3	111
Destroying private property	1	4						2	1	4						55	12	67
Destroying public property																1		1
Embezzlement																16		16
Forcible entry										1						6	1	7
Forgery						1										5	1	6
Grand larceny						3			1	1						58	5	63
Highway robbery																8		8
Housebreaking, day																7		7
Housebreaking, night						1				1						34	2	36
Larceny from the person										1						20	1	21
Obtaining goods or money by false pretenses				1												37	1	38
Petit larceny	8		7	18		1		8	14	41				1		280	98	378

364 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Disposition of offenses against the person and property—Continued.

Offenses.	Under 40, females.																
	Fined and paid.	Work-house in default.	Jail in default.	Jail.	Work-house.	Grand jury.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	To friends.	Insane asylum.	Appealed.	Hospital.	Total males.	Total females.	Grand total.
<i>Against property—Continued.</i>																	
Robbery						3		1	1	1					1		1
Receiving stolen goods.....	1				1			1		1					2	7	9
Suspicion										29					260	30	290
Trespass		1						1		1					71	3	74
Violation of United States postal laws															1		1
Violation of United States internal-revenue law						1									3	1	4
Violation of shipping law															2		2
Violation of United States Revised Statutes															7		7
Violation of District of Columbia ordinance	6	1						5	2	1					269	15	284
Violation of liquor law.....	9	1						3	3	8					184	24	208
Violation of building regulations		1													29	1	30
Violation of water regulations	2														48	2	50
Violation of hack law															37		37
Violation of dog law.....								1	40	81					482	122	604
Total.....	329	156	36	29	122	11	2	191	121	619	3	8	1	1	8,259	1,629	9,888

Over 40, males.

Offenses.	Fined and paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Appealed.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	Wash'ton Asylum.	Hospital.	Pennsylvania authorities.	Naval authorities.	U. S. marshal.	To friends.	Insane Asylum.
<i>Against the person.</i>																		
Affray	24		6						3	5	15							
Assault	16		3	1					4	6	23							
Assault and battery	86		19	8			2		39	15	67							
Assault and battery with intent to kill						6	1											
Assaulting policeman			1							1	1							
Bigamy			2								1							
Cruelty to children						2											1	
Criminal libel			1							1	1							
Carrying concealed weapons	7	5							4	2	2							
Contempt of court	8		1						6		1							
Creating a nuisance	4		1					1	1	4	16						1	
Disorderly conduct	81	46			1				1	4	5							
Deserters									18	4	24							
Enticing prostitution											1							
Fugitive from Insane Asylum															3			
Fugitive from justice																		4
Fast riding or driving	7	1							2		3						9	
Habitual drunkenness					29				9	3	3							
Indecent exposure of person	27	14			1					3	2		1					
Indecent assault			1	4						3	1							
Insanity											8							
Intoxication											5		2					
Intoxication and disorderly	108	99			2				8	4	1,882						6	11
Interfering with poundmaster									1		16							
Keeping disorderly house	1								2	1								
Keeping bawdy-house				1							2							

Disposition of offenses against the person and property—Continued.

Offenses.	Over 40, males.																	
	Fined and paid.	Work-house, in de- fault.	Jail, in default.	Jail.	Work-house.	Grand jury.	Appealed.	Bonds.	Personal bonds.	Nolle pros.	Dismissed.	Wash'ton Asylum.	Hospital.	Pennsylvania au- thorities.	Naval authorities.	U. S. marshal.	To friends.	Insane Asylum.
<i>Against the person—Continued.</i>																		
Keeping gambling house or table....	1						1			1	2							
Loud and boisterous	4	2									1							
Murder						3												
Perjury										2								
Profanity	140	70							9	2	12							
Refusing to assist an officer	1								1									
Rape						1					1							
Resisting United States marshal	1																	
Refusing to pay hack hire	1										27							
Selling lottery tickets	9		1															
Surrendered by bondsman																		
Threats of violence			4	10				4	55	13	16							
United States witness	1										29							
Vagrancy					187				21		11							
Writing policy	13		1	1						1								
<i>Against property.</i>																		
Cruelty to animals	48	2					2		17	2	21							
Destroying private property	1	3							1	3	2							
Destroying public property																		
Embezzlement						5				1								
Forcible entry										2								
Grand larceny						4			1	4	5			1		2		
Highway robbery						1					1							
Housebreaking, day						1					1							
Housebreaking, night						6			1	3	1							
Obtaining goods or money by false pretenses						2					6							
Petit larceny	3		3	28		2	2		6	21	14							
Receiving stolen goods										1	6							
Suspicion					7				3	1	40	1						
Trespass	18	19					1		15	7	6							
Violation of United States postal law																1		
Violation of United States Revised Statutes						1	1											
Violation of District of Columbia ordinances	55	11					3		60									
Violation of liquor law	106						20		10	8	29							
Violation of building regulations	28						1		32	8	12							
Violation of water regulations	46								23	5	9							
Violation of hack law	11								2	1	12							
Violation of dog law	2				1				4	88	269							
Total	859	272	44	53	228	34	35	5	358	223	2,607	7	2	1	3	14	6	15

366 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Description of offenses against the person and property—Continued.

Offenses.	Over 40, females.												Totals.				
	Fined and paid.	Work-house, in default.	Jail, in default.	Jail.	Work-house.	Grand jury.	Personal bonds.	Nolle pros.	Dismissed.	U. S. marshal.	Insane Asylum.	Work-house.	Appeal.	Wash'ton Asylum.	Total males.	Total females.	Grand total.
<i>Against the person.</i>																	
Affray	1						2	1	1						53	5	58
Assault	2						4		9						53	15	68
Assault and battery	14		3				5		28						236	50	286
Assault and battery with intent to kill			1												10	1	11
Assaulting policeman															4		4
Bigamy															3		3
Cruelty to children								1							3	1	4
Criminal libel															2		2
Carrying concealed weapons							1								19	1	20
Contempt of court	3		1				2	1	4						33	11	44
Creating a nuisance							1		4						16	5	21
Disorderly conduct	12	11					8		18						174	49	223
Deserters															4		4
Enticing prostitution		1						1								2	2
Fugitive from Insane Asylum															4		4
Fugitive from justice												1			9	1	10
Fast riding or driving															13		13
Habitual drunkenness					2										45	2	47
Indecent exposure of person	1	1													47	2	49
Indecent assault															6		6
Insanity									5		1			1	32	7	39
Intoxication									155						1,882	155	2,037
Intoxication and disorderly	16	22					2	1	6						237	46	283
Interfering with poundmaster															1		1
Keeping disorderly house							2								7	2	9
Keeping bawdy-house	1															2	2
Keeping gambling house or table												1				2	2
Loud and boisterous	2	2													5		5
Murder															7	4	11
Perjury															3		3
Profanity	10	15					3	1	10						2		2
Refusing to assist an officer															233	39	272
Rape															2		2
Resisting United States marshal															2		2
Refusing to pay hack hire															1		1
Selling lottery tickets															28		28
Surrendered by bondsman															10		10
Threats of violence										2						2	2
United States witness							16	3	11						102	30	132
Vagrancy									2						30	2	32
Writing policy					78		7	1	3						219	80	308
<i>Against property.</i>																	
Cruelty to animals															16		16
Destroying private property	2																
Destroying public property	2	1					1		1						92	2	94
Embezzlement		1													10	5	15
Forceful entry																1	1
Grand larceny															6		6
Highway robbery									2						2		2
Housebreaking, day															17	2	19
Housebreaking, night															2		2
Obtaining goods or money by false pretenses															2		2
Petit larceny															11		11
Receiving stolen goods	3		1	5			1	5	17						8	1	9
Suspicion								1	1						79	32	111
Trespass					2		1		11						7	2	9
Violation of United States postal laws	1							1							52	14	66
Violation of United States Revised Statutes															66	2	68
Violation of District of Columbia ordinances						1									1		1
Violation of liquor law	1														2	1	3
Violation of building regulations	5	1					8		5						129	9	138
Violation of water regulations		1					6								173	17	190
Violation of hack law	8						5	1							81	1	82
Violation of dog law															83	14	97
Total	84	56	6	5	82	1	75	51	370	2	1	1	1	1	14,766	736	5,502

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 367

Disposition of offenses against the person and property—Continued.

SUMMARY.

Cases—	Males.	Females.	Total.
Fined and paid	4,043	551	4,594
Fined, work-house, in default	1,161	307	1,468
Fined, jail, in default	361	82	443
Sent to jail	566	78	644
Sent to work-house	531	270	801
Sent to Reform School	59		59
Appealed	102	4	106
Held for the grand jury	225	24	249
Sent to parents or guardians	34	23	57
Sent to the Industrial School	3		3
Sent to the Orphan Asylum	3		3
Sent to the House of Mercy		4	4
Sent to the House of the Good Shepherd		11	11
Sent to the Insane Asylum	32	10	42
Sent to the Washington Asylum	22	1	23
Sent to the hospital	4	1	5
Sent to the Maryland authorities	17	1	18
Sent to the Virginia authorities	8		8
Sent to the Pennsylvania authorities	2		2
Sent to the Indiana authorities	1		1
Sent to the vessel	2		2
Sent to the naval authorities	13		13
Sent to the military authorities	2		2
Sent to their friends	9	3	12
Sent to the United States marshal	31	2	33
Bonds given	44	2	46
Personal bonds given	1,341	327	1,668
Nolle prossed	983	224	1,207
Dismissed	7,220	1,231	8,451
Total	16,819	3,156	19,975

REPORT OF THE PATROL SERVICE.

FIRST PRECINCT STATION,
Washington, D. C., July 1, 1887.

MAJOR: I respectfully submit the following report of the patrol service in this precinct for the past fiscal year:

Reports by officers from boxes	75,833
Dispatches sent and received	1,360
Calls for wagon by officers	580
Calls for wagon by citizens	38
Calls for wagon by messenger or telephone	321
Sick and disabled persons taken home	76
Lost children taken home	17
Persons taken to hospitals	141
Persons taken to police court	43
Persons taken to police headquarters	17
Persons taken to depot	7
Persons taken to photograph gallery	10
Persons taken to Deaf and Dumb Asylum	1
Persons taken to House of Mercy	3
Persons taken to Foster Home	2
Persons taken to Womens' Christian Home	1
Persons taken to Washington Asylum	4
Persons taken to Insane Asylum	6
Persons taken to United States Arsenal	1
Persons taken to United States jail	2
Persons taken to work-house	1
Persons taken to marshal's office	1
Children taken to St. Ann's Orphan Asylum	4
Children taken to Home Industrial School	10
Children taken to Children's Hospital	1
Persons brought from headquarters	63
Miscellaneous trips with the wagon	204

368 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Dead animals reported.....	187
Casualties reported.....	77
Dead bodies moved.....	15
Times reserve force taken to fires.....	21
Accidents attended.....	34

Maj. WILLIAM G. MOORE,
Superintendent Metropolitan Police.

T. B. AMISS,
Lieutenant.

FOURTH PRECINCT, July 1, 1887.

SIR: I have the honor to submit the following report in relation to the patrol service since its organization in this precinct, November 1, 1886, to date:

Calls made by officers reporting from their beat.....	24,155
Telephone messages sent and received.....	545
Wagon calls made by officers.....	318
Wagon calls made by citizens.....	28
Calls for officers by citizens answered by wagon.....	12
Casualties reported through the boxes.....	62
Calls from headquarters for the wagon.....	35
Miscellaneous trips with patrol wagon.....	103
Trips to hospitals with patrol wagon.....	8
Trips to fires, reserve responding.....	14
Fires reported through the boxes.....	6
Trips to police court with wagon.....	22
Calls for alarm of fires through boxes.....	2
Robberies reported through the boxes.....	3
Dead animals reported.....	69
Lost children reported.....	2
Respectfully submitted.....	

C. R. VERNON,
Lieutenant.

Maj. WILLIAM G. MOORE,
Superintendent Metropolitan Police.

SIXTH PRECINCT STATION, July 1, 1887.

SIR: The following report of the operations of the patrol system, at this precinct, during the fiscal year ending June 30, 1887, is respectfully submitted:

Reports made by officers from signal boxes.....	51,625
Calls for wagon by officers at signal boxes.....	771
Calls for wagon by citizens at signal boxes.....	120
Calls for wagon by messengers.....	23
Calls for wagon by headquarters.....	322
Trips made by wagon to hospitals.....	92
Trips made by wagon to Washington Asylum.....	17
Trips made by wagon to Infant Asylum.....	5
Trips made by wagon to Orphan Asylum.....	3
Trips made by wagon to House of Good Shepherd.....	1
Trips made by wagon to the police court.....	78
Trips made by wagon to the jail.....	5
Times carried sick persons home.....	86
Times carried prisoners to photograph gallery.....	10
Times carried the reserve to fires.....	26
Insane persons brought to the station.....	7
Insane persons carried to the depots.....	3
Abandoned infants brought to the station.....	3
Girls carried to the House of Mercy.....	1
Dead bodies brought to the morgue.....	10
Miscellaneous trips, police business.....	302
Casualties reported from signal boxes.....	49
Dead animals reported from signal boxes.....	201
Dispatches sent and received.....	62
Total number of wagon trips.....	1,236
Respectfully,	

Maj. WILLIAM G. MOORE,
Superintendent Metropolitan Police.

JOHN F. KELLY,
Lieutenant.

REPORT OF THE SANITARY OFFICER.

DEPARTMENT OF METROPOLITAN POLICE, SANITARY OFFICE,
Washington, D. C., August 1, 1887.

SIR: As will be seen by a comparison of this with previous annual reports, the work of this office is on the increase. There are many applicants for admission to the several hospitals in this city, many of whom, after examination, are found unworthy; yet the proportion of worthy ones are increasing each year. For this there are various reasons, chief of which is the large number of inebriates that the office is called upon to care for. The sending of these cases to the hospitals affords but temporary relief, for there is no way by which they can be detained against their will, and they leave the institution before they have recovered from the alcoholic poison, and the result is that in a short time the same work has to be gone over again.

An Inebriate Asylum is needed in this city. The necessity for an institution of the kind becomes more apparent every year. It is not alone the work it gives to this office, by a repetition of offenses, that urges the necessity for such an institution, but the safety of the community demands it. But a short while ago, one of our most estimable citizens, Mr. Joseph C. G. Kennedy, was stricken down without a moment's warning, by a monster in human form, whose brutal passions were worked up to a frenzy over an imaginary grievance, through long and excessive indulgence in drink. Had there been an institution of that kind here, where this man could have been confined, this, perhaps, would not have happened. Yet this is only one of the many cases that occur, and it shows the great and urgent need for such an institution. If it is impracticable at the present time to establish an institution of this character, some arrangement should be made with the Superintendent of the Government Asylum for the Insane, by which this class of cases could be admitted to that institution.

I would respectfully call your attention to the need of an institution where colored girls can be placed under restraint and be prevented from leading lives of vice. Cases of this character are frequently brought to the notice of this office, but as there is no place where colored girls can be placed, nothing can be done for them. In the House of Good Shepherd and House of Mercy white girls only are cared for.

TRANSPORTATION OF THE POOR.

This office is charged with furnishing transportation to worthy indigent persons found in the District without means to reach their homes. No money disbursed affords more relief than that appropriated for this purpose. Persons coming here seeking positions, who are disappointed, and others having business to transact with the Departments, among them many old soldiers looking for pensions, who remain here until their funds are exhausted, are unable to reach their homes unless furnished transportation from this fund. This is cheaper than having them a charge on the community. Since the interstate commerce law went into effect the transportation rates have been considerably increased. The appropriation of \$4,000 for this purpose last year was ample to meet all demands on this office, with a small balance left, and I think the same amount will be sufficient for the next fiscal year.

AMBULANCE SERVICE.

In referring to the work of the police ambulance, every call made upon it, either by day or night, has been promptly responded to. The driver has performed his duties faithfully and well. I would again call attention to the meager salary paid the ambulance driver for the duty he performs. His is a place not only of responsibility, but one that requires experience in order that the work may be properly done. The ambulance and its equipment are due to the surgeons of police, the physicians to

The thanks of this department are due to the surgeons of police, the physicians to the poor, and the surgeons of the various hospitals, for the kind and courteous treatment extended, and the prompt manner in which they have responded to all requests and received all cases sent them.

Very respectfully,

D. H. TEEPLE,
Sanitary Officer.

Maj. WILLIAM G. MOORE,
Superintendent of Police.

370 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

DISPOSITION OF SICK AND DESTITUTE PERSONS.

Sent to Freedman's Hospital	873
Sent to Washington Asylum Hospital	211
Sent to Providence Hospital.....	437
Sent to Garfield Hospital.....	49
Sent to Columbia Hospital.....	17
Sent to Homeopathic Hospital.....	9
Sent to Children's Hospital.....	20
Sent to Emergency Hospital.....	7
Sent to Foundling Hospital.....	1
Sent to Government Hospital for the Insane.....	134
Sent to the Almshouse	176
Sent to Saint Ann's Infant Asylum.....	8
Sent to Washington City Orphans' Asylum.....	5
Sent to Colored Orphans' Home	4
Sent to Woman's Christian Association	7
Sent to Little Sisters of the Poor.....	2
Sick persons removed from police court to work-house.....	2
Sick persons removed from police court to jail.....	2
Sick persons removed from Washington Asylum Hospital to police court.....	2
Sick persons removed from hospital and homes to points for transportation ...	20
Sick and injured persons taken to their homes	139
Sick and injured persons removed from stations to police headquarters.....	2
Intoxicated persons taken to their homes and stations.....	6
Persons under arrest taken to police court	7
Residents examined for insanity and dismissed.....	1
Non-resident insane persons turned over to relatives	1
Dead bodies removed to stations.....	9
Dead bodies removed to their late homes.....	3
Total	2,154

Ages of persons sent to hospitals, etc.

	Under 10 years.	Between 10 and 15 years.	Between 15 and 20 years.	Between 20 and 25 years.	Between 25 and 30 years.	Between 30 and 40 years.	Between 40 and 50 years.	Between 50 and 60 years.	Over 60 years.	Total.
Males, white	12	15	49	87	86	165	190	139	128	871
Females, white	3	7	32	34	38	67	52	40	41	314
Males, colored	20	21	54	96	64	112	76	63	70	576
Females, colored.....	17	9	82	91	52	70	28	21	33	393
Total	52	52	217	308	240	414	346	263	272	2,154

Occupations of persons sent to hospitals, etc.

Occupation.	No.	Occupation.	No.
Actors	2	Lithographers	2
Agents	10	Machinists	11
Artists	1	Merchants	1
Awning-makers	1	Millers	2
Bakers	6	Miners	2
Brick-makers	1	Messengers	8
Butchers	13	Ministers	1
Brokers	2	Molders	3
Brakemen	3	Musicians	5
Barbers	9	No occupations	483
Blacksmiths	13	Nurses	6
Boatmen	5	Painters	41
Brewers	3	Paper-hangers	3
Bricklayers	11	Peddlers	4
Carpenters	21	Physicians	5
Cabinet-makers	4	Plasterers	12
Carriage-makers	1	Plumbers	4
Calkers	1	Policemen	3
Cigar-makers	5	Porters	4
Civil engineers	2	Potters	3
Clerks	55	Printers	8
Coachmen	6	Prostitutes	16
Conductors	2	Puddlers	2
Contractors	1	Riggers	1
Confectioners	1	Sailors	32
Cooks	16	Saddlers	1
Coopers	1	Seamstresses	5
Detectives	1	Shoemakers	17
Door-keepers	1	Slaters	1
Dressmakers	7	Soldiers	4
Drapers	1	Stone-cutters	8
Druggists	3	Stone-masons	1
Draughtsmen	1	Store-keepers	3
Dyers	4	Stenographers	1
Engineers	2	Servants	412
Engravers	2	Tailors	8
Expressmen	1	Tanners	1
Farmers	32	Teachers	5
Firemen	10	Telephone operators	3
Folders	1	Telegraph operators	1
Furriers	1	Tinners	7
Gardeners	12	Turners	1
Glass-blowers	1	Upholsterers	2
Hatters	1	Unknown	17
Hostlers	12	Waiters	27
House-keepers	76	Watchmen	8
Hucksters	4	Washerwomen	4
Hod-carriers	6	Weavers	1
Ice dealers	1	Wheelwrights	2
Inspectors	1	Wire-workers	4
Laborers	564		
Lawyers	6	Total	2, 154
Letter-carriers	1		

Nativity.

Country.	No.	Country.	No.
United States, white	784	Poland	2
United States, colored	969	Russia	5
Canada	3	Scotland	6
Denmark	2	Sweden	2
England	21	Switzerland	10
France	7	Turkey	2
Germany	130	Unknown	3
Hungary	2		
Ireland	198	Total	2, 154
Italy	8		

372 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Residence when home.

State or Territory.	No.	State or Territory.	No.
Alabama.....	3	New York.....	21
Canada.....	1	North Carolina.....	1
Connecticut.....	2	Ohio.....	3
District of Columbia.....	1,517	Oregon.....	1
Florida.....	1	Pennsylvania.....	21
Georgia.....	1	Rhode Island.....	1
Indiana.....	1	South Carolina.....	1
Kansas.....	1	Texas.....	3
Kentucky.....	1	Vermont.....	3
Maine.....	1	Virginia.....	84
Maryland.....	86	West Virginia.....	4
Massachusetts.....	3	Washington Territory.....	1
Michigan.....	1	Non-residents.....	355
Missouri.....	2	Unknown.....	28
Nebraska.....	2		
New Jersey.....	4	Total.....	2,154

Places to which transportation was furnished.

Locality.	No.	Locality.	No.
Annapolis, Md.....	1	Elizabeth, N. J.....	1
Albertus, Pa.....	1	Elkton, Md.....	1
Albany, N. Y.....	1	Erie, Pa.....	1
Alexandria, Va.....	2	Ellicott, Md.....	1
Asbury Park, N. J.....	2	Fortress Monroe, Va.....	18
Altoona, Pa.....	1	Fredericksburgh, Va.....	10
Baltimore, Md.....	130	Frederick, Md.....	3
Brandy Station, Va.....	1	Grafton, W. Va.....	8
Bristol, Va.....	1	Gaithersburgh, Md.....	1
Barboursville, Va.....	1	Harrisburg, Pa.....	14
Brandywine, Md.....	2	Havre de Grace, Md.....	1
Columbus, Ohio.....	2	Harper's Ferry, W. Va.....	1
Connellsville, Pa.....	2	Hagerstown, Md.....	3
Charlottesville, Va.....	3	Haymarket, Va.....	1
Chicago, Ill.....	11	Hamilton, Va.....	1
Cincinnati, Ohio.....	11	Indianapolis, Ind.....	1
Cumberland, Md.....	9	Jersey City, N. J.....	1
Chatsworth, Ill.....	2	Kansas City, Kans.....	1
Columbia, Pa.....	1	Lynchburgh, Va.....	7
Clifton, Va.....	1	Louisville, Ky.....	2
Culpeper, Va.....	1	Leesburgh, Va.....	1
Chester, Pa.....	1	Mount Jackson, Va.....	1
Council Bluffs, Iowa.....	1	Martinsburgh, W. Va.....	2
Charleston, W. Va.....	1	Marshall, Va.....	1
Cleveland, Ohio.....	3	Memphis, Tenn.....	1
Durham, N. C.....	1	Mechanicsville, Md.....	1
Danville, Va.....	2	New York.....	47
Dover, Del.....	1	Norfolk, Va.....	21
Derwood, Md.....	1	New River, Va.....	2
Newark, N. J.....	1	Saint Louis, Mo.....	4
North Mountain, W. Va.....	1	Sir John Run, W. Va.....	2
Newport, Pa.....	1	Shenandoah, W. Va.....	1
Orleans Road, W. Va.....	1	Savannah, Ga.....	1
Orange, Va.....	3	Sunbury, Pa.....	1
Philadelphia, Pa.....	93	Staunton, W. Va.....	1
Pittsburgh, Pa.....	15	Smithton, W. Va.....	1
Plains, Va.....	2	South Branch, Md.....	1
Parkersburgh, W. Va.....	2	Trenton, N. J.....	3
Preston, Md.....	1	Town Creek, Ala.....	1
Pope's Creek, Va.....	1	Wilmington, Del.....	4
Quantico, Va.....	3	Williamsport, Pa.....	3
Richmond, Va.....	21	Watkins, N. Y.....	1
Rivers, Va.....	1	Wheeling, W. Va.....	5
Rockwood, Pa.....	1	Woodford, Va.....	2
Rockville, Md.....	1		
Reidsville, N. C.....	1	Total.....	534

INDIGENTS—WHERE SENT AND WHY.

Residents sent to their friends	40
Residents sent to places of employment	19
Non-resident ex-soldiers sent to Hampton Home	14
Non-resident ex-soldiers looking for admission to regular and volunteer homes sent to friends	11
Non-resident ex-soldiers looking for pensions, etc., sent to friends	49
Non-residents looking for Government employment sent to friends	17
Non-resident "cranks" sent to friends	10
Non-resident insane persons sent to friends	4
Non-resident convalescent sick sent to friends	90
Non-residents looking for private employment sent to friends	99
Non-residents on their way to homes and friends	111
Non-residents sent to friends by order of the Commissioners of District of Columbia	9
Non-residents discharged from Government employment sent to their friends ..	4
Non-resident suspicious characters sent home	14
Non-residents looking for relatives sent home	34
Non-resident incurable cases looking for treatment sent home	6
Total	531

WORK ACCOMPLISHED BY THE POLICE AMBULANCE.

Number of runs made where service was rendered	1,046
Number of runs made where service was not rendered	133
Total	1,179

ASSISTANCE RENDERED THIS DEPARTMENT BY THE PATROL WAGON.

	Cases.
The first precinct patrol wagon made runs in	75
The sixth precinct patrol wagon made runs in	76
The fourth precinct patrol wagon made runs in	8
Total	159

REPORT OF THE POLICE SURGEONS.

DEPARTMENT OF METROPOLITAN POLICE,
Washington, D. C., August 23, 1887.

SIR: In compliance with instructions from your headquarters, the undersigned has the honor to submit the report of examinations by the board of surgeons Metropolitan police department for the fiscal year ended June 30, 1887:

Total number examined	107
Number accepted	62
Number rejected	45
Number examined for retirement	3
Number retired	2

Respectfully submitted.

C. H. A. KLEINSCHMIDT,
Secretary.

Maj. WILLIAM G. MOORE,
Superintendent Metropolitan Police.

REPORT OF THE AGENT HUMANE SOCIETY.

OFFICE OF THE HUMANE SOCIETY,
Washington, D. C., July 1, 1887.

Sir: I respectfully submit the following report of the number and disposition of cases investigated for violation of the law for the protection of children, for the fiscal year 1887:

Cases investigated	163
Cases amicably adjusted	148
Cases prosecuted	15

374 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Cases lined.....	7
Cases dismissed.....	2
Cases sent to grand jury.....	2
Cases personal bonds given.....	2
Cases nolle prossed.....	2
	15
Children provided for.....	97
Children sent to Church Orphanage.....	2
Children sent to House of Good Shepherd.....	9
Children sent to House of Mercy.....	2
Children sent to hospitals.....	4
Children sent to Industrial Home School.....	7
Children sent to National Home for Colored.....	4
Children sent to Reform School.....	1
Children sent to St. Ann's Infant Asylum.....	29
Children sent to St. Joseph's Orphan Asylum.....	2
Children sent to St. Monica's Orphan Asylum.....	1
Children sent to Washington Asylum.....	13
Children sent to Washington City Orphan Asylum.....	12
Children sent to Washington Hospital for Foundlings.....	1
Children sent to homes.....	10
Total.....	97

CHAS. W. O'NEILL, M. P.,
Agent Humane Society.

Maj. WM. G. MOORE, Superintendent of Police.

COMMITMENTS TO PENITENTIARY DURING FISCAL YEAR ENDING JUNE 30, 1887.

1. Thomas Kelly, black, housebreaking in the night, eighteen months in penitentiary, July 1, 1887.
2. William Hadenfeldt, white, forgery, one year in penitentiary, July 6, 1886.
3. James Cryser, black, second offense, petit larceny, one year in penitentiary, July 9, 1886.
4. John Schofield, black, highway robbery, four years in penitentiary, October 7, 1886.
5. Benjamin Lawson, black, assault with intent to kill, three years in penitentiary, October 16, 1886.
6. Theodore M. C. Handy, white, grand larceny, eighteen months in penitentiary, October 23, 1886.
7. Frank Brooks, black, assault and battery with intent to kill, thirty months in penitentiary, October 23, 1886.
8. George Hawkins, black, housebreaking, three years in penitentiary, October 23, 1886.
9. William T. Benton, white, perjury, five years in penitentiary, October 27, 1886.
10. John Harris, black, larceny, one year in penitentiary, November 17, 1886.
11. William Pope, black, assault with intent to kill, three years in penitentiary, November 27, 1886.
12. Thaddens Hall, black, housebreaking, three years in penitentiary, November 27, 1886.
13. Thomas Clark, black, second offense, petit larceny, one year in penitentiary, December 21, 1886.
14. Charles Green, alias Garrett, black, housebreaking, three years in penitentiary, December 22, 1886.
15. William Robinson, black, housebreaking in day, two years in penitentiary, December 23, 1886.
16. William Tibbs, black, housebreaking in day, three years in penitentiary, December 23, 1886.
17. Edward Powell, black, housebreaking in day, three years in penitentiary, December 23, 1886.
18. Armistead Jones, alias Armistead Jones, black, second offense, petit larceny, eighteen months in penitentiary, December 23, 1886.
19. Henry Williams, alias Henry Holmes, alias Henry Smith, black, grand larceny, three years in penitentiary, December 23, 1886.
20. Charles Salter, black, larceny, one year in penitentiary, December 23, 1886.

21. John Meeks, white, larceny from the person, eighteen months in penitentiary, December 23, 1886.
22. Priscilla Chase, black, second offense, petit larceny, two years in penitentiary, January 6, 1887.
23. John Williams, black, false pretenses, two years in penitentiary, January 15, 1887.
24. Susan Clark, alias Susie Clark, black, manslaughter, three years in penitentiary, January 15, 1887.
25. Mary Ellen Jackson, alias Mary Ellen Braxton, alias Mary Ellen Williams, black, larceny, two years in penitentiary, January 29, 1887.
26. Elizabeth Better, black, larceny, two years in penitentiary, February 9, 1887.
27. Isaiah Brown, black, second offense, petit larceny, two years in penitentiary, February 10, 1887.
28. Samuel Johnson, alias William H. Banket, black, housebreaking in night, two years in penitentiary, February 14, 1887.
29. Lloyd Hawkins, alias Lloyd Simms, black, robbery, four years in penitentiary, February 14, 1887.
30. William Honesty, alias Jack Honesty, black, housebreaking in night, thirty months in penitentiary, February 14, 1887.
31. John L. West, black, housebreaking, six years in penitentiary, March 1, 1887.
32. George Carter, black, housebreaking in night, two years in penitentiary, March 12, 1887.
23. George G. Sledge, white, forgery, three years in penitentiary, March 16, 1887.
34. John Jackson, alias James Smith, alias Oscar Thornton, black, two cases of housebreaking, and three cases of assault with intent to kill, twenty years in penitentiary, April 2, 1887.
35. Frank L. Perry, alias Charles Williams, alias George Williams, white, larceny, eighteen months in penitentiary, April 2, 1887.
36. William Gassaway, black, grand larceny, twenty-seven months in penitentiary, April 11, 1887.
37. Mollie Harris, black, larceny, thirty months in penitentiary, April 12, 1887.
38. George Johnson, black, grand larceny, twenty-one months in penitentiary, April 14, 1887.
39. William Butler, alias Henry Butler, black, housebreaking, six years in penitentiary, April 14, 1887.
40. Sarah Edmunds, black, housebreaking, two years in penitentiary, April 14, 1887.
41. Susan Baker, black, housebreaking, thirty months in penitentiary, April 15, 1887.
42. Mary Baker, black, housebreaking, three years in penitentiary, April 15, 1887.
43. Walter Brown, black, housebreaking, five years in penitentiary, April 16, 1887.
44. John K. Pfeil, white, bigamy, two years in penitentiary, April 16, 1887.
45. Harper Green, black, housebreaking in night, thirty months in penitentiary, June 4, 1887.
46. Charles W. Howard, alias Charles P. Morgan, white, larceny (three counts), nine years in penitentiary, June 4, 1887.
47. Charles Majors, alias Major, etc., black, grand larceny, five year in penitentiary, June 4, 1887.
48. William Taylor, alias Skid Taylor, black, larceny, one year in penitentiary, June 11, 1887.
49. Mary Brooks, black, arson, three years in penitentiary, June 13, 1887.
50. Henry Brown, white, larceny, three years in penitentiary, June 14, 1887.
51. John W. Hill, alias John W. Adams, black, grand larceny, two years in penitentiary, June 15, 1887.
52. John Warrick, alias William Warrick, black, larceny from the person, two years in penitentiary, June 15, 1887.
53. John Stewart, white, larceny from the United States, fined \$100 or three months in penitentiary, June 26, 1887.
54. James Little, jr., white, housebreaking, ten years in penitentiary, June 25, 1887.
55. John Little, white, housebreaking, five years in penitentiary, June 25, 1887.
56. William Ward, black, false pretenses, two years in penitentiary, June 17, 1887.
57. F. T. S. Fields, black, housebreaking, one year in penitentiary, June 25, 1887.

O.

REPORT OF INSPECTORS OF WOOD, LUMBER, AND FLOUR.

O 1.

WASHINGTON, D. C., *July 27, 1887.*

GENTLEMEN: Please find inclosed statement of wood inspected and measured in Anacostia district from July 1, 1886, to June 30, 1887, inclusive.

Very respectfully,

A. W. EATON,
*Inspector and Measurer of Wood for Anacostia District,
District of Columbia.*

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Statement of wood inspected and measured in Anacostia district.

Date.	Pine.	Oak.	Hickory.	Total.
1886.	<i>Cords.</i>	<i>Cords.</i>	<i>Cords.</i>	<i>Cords.</i>
July	645½	19½		665
August	964½	85½		1,050
September	798½	86½		885
October	638½	205½	58½	903
November	612½	129½		742
December				
1887.				
January				
February				
March	157½	50½		208½
April	336½	116		452½
May	648	113½		761½
June	571½	70		641½
Total	546½	44½		591½
				6,900½

O 2.

WASHINGTON, D. C., *August 11, 1887.*

GENTLEMEN: I beg to submit this my first annual report of fuel inspected, weighed, and measured to July 1, 1887; I have inspected, weighed, and measured 22,598 cords wood and 5,850 tons coal.

Very respectfully,

WM. M. DOVE,
*Inspector Fuel, District of Columbia, and
Measurer Wood, Potomac District.*

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 3.

GEORGETOWN, D. C., *July 20, 1887.*

GENTLEMEN: In compliance with the instructions contained in your communication of 12th instant, I have the honor to report that, during the fiscal year ending June 30, 1887, I inspected and measured 7,823 cords of wood.

The proportion of wood arriving from Virginia during the past year was in excess of that coming from Maryland.

Very respectfully,

HENRY BURROWS,

Inspector and Measurer of Wood, Rock Creek District.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 4.

GEORGETOWN, D. C., *July 21, 1887.*

SIRS: The following is the amount of flour inspected by me for the fiscal year ending June 30, 1887: 48,204 barrels.

Very respectfully,

JACOB F. STAUB.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 5.

WASHINGTON, D. C., *August 29, 1887.*

GENTLEMEN: I herewith submit my report for amount of flour inspected by me for the year ending June 30, 1887:

	Barrels.
Family flour	142,203
Extra flour	1,600
Super flour	800
Rye flour	2,103
Condemned flour	800
Total	147,506

Your obedient servant,

JAMES H. WELCH,
Flour Inspector, City.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 6

WASHINGTON, D. C., *July 25, 1887.*

GENTLEMEN: We have the honor to transmit to you a report of all the lumber measured and inspected by us for the fiscal year ending June 30, 1887:

	Feet.
Yellow pine	16,163,745
Cypress	99,632
Oak	60,484
Poplar	113,253
Ash	16,846
White pine	40,869
Gum	19,262
Walnut	2,137
Total	16,516,228

Respectfully submitted.

GEO. Z. COLISON,
E. CHAMPLIN,
E. L. HARBAUGH,
Inspectors and Measurers of Lumber.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 7.

GEORGETOWN, D. C., *August 29, 1887.*

GENTLEMEN: I beg leave to make the following report of lumber inspected by me from July 22, 1886, to June 30, 1887:

	Feet.
Yellow pine	5,589,701
Cypress	78,413
Poplar	20,112
Oak	11,722
Ash	10,288
Total	5,710,236

Very respectfully submitted.

R. W. DAILY,
Inspector of Lumber for the Port of Georgetown.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

O 8.

WASHINGTON, D. C., *July, 1887.*

GENTLEMEN: I herewith respectfully submit a detailed statement of the operations of my office for the fiscal year ending ending June 30, 1887:

	<i>Lumber measured and inspected.</i>	Feet.
Yellow pine		6,727,570
White pine		11,882
Oak		44,964
Ash		15,227
Cypress		17,857
Poplar		26,221
Total		6,843,721

Very respectfully,

THOMAS R. RILEY,
Lumber Inspector.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

P.

REPORT OF THE SEALER OF WEIGHTS AND MEASURES.

OFFICE OF THE SEALER OF WEIGHTS AND MEASURES,
Washington, D. C., July 1, 1887.

GENTLEMEN: I have the honor to submit the following as the report of my work as sealer of weights and measures for the District of Columbia from April 6, 1887, the date of my appointment, to June 30, 1887:

Coal scales inspected April, 1887	91
Platform wagon scales inspected April, 1887	11
Coal scales condemned in April, 1887	3

One coal scales condemned has since been repaired and is now in use, in good condition.

Coal scales inspected in May, 1887	10
Stores inspected in April, 1887	137
Stores inspected in May, 1887	68
Stores inspected in June, 1887	154

The following is a statement of my receipts and expenditures for same period:

Receipts:	\$261.10
April	276.85
May	172.85
June	
	710.80

Expenditures:	103.50
April	90.00
May	76.75
June	
	270.25

In addition to the above all the scales in the various market-houses in the city have been examined. I would respectfully state that when I first took charge of the office my predecessor failed to turn over to me any books or memoranda regarding the business; all that I received from him being the Government standard weights and measures belonging to the District of Columbia. These weights and measures I have since had verified at the U. S. Coast and Geodetic Survey Office.

Having no information as to when or in what part of the District the last examination was made, I visited many stores and other places where an inspection had but recently been made. Finding this to be the case, I have divided the city and county into sections and propose to take each section in order until all are inspected. Comparatively a small number of scales were found out of order. When so found they were corrected; none were condemned except in the three cases of platform scales above noted.

Respectfully, yours,

GEO. T. HOWARD,
Sealer of Weights and Measures.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Q.

REPORT OF THE MARKET MASTER.

Q 1.

EASTERN MARKET,
Washington, November 26, 1887.

GENTLEMEN: I have the honor to state that I was appointed market master October 2, 1886, and most respectfully submit the following inclosed reports of transactions and receipts of the same during the nine months of the fiscal year under my charge ending June 30, 1887. The building is sadly in want of paint inside and out, the roof should be ventilated in some manner, new water-closets put in, sewer connection made within the market, the pavement relaid in places around the building, and other minor repairs needed. I should think it would take \$700 or \$800 to put the building in proper repair. The market master, whose salary is \$1,200, is the only paid official; a laborer to assist in cleaning and keeping the market in a sanitary condition is absolutely necessary.

Very respectfully,

GEO. H. GADDIS,
Market Master.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Statement of receipts, etc., of the Eastern Market for the year ending June 30, 1887.

Class of stalls.	Number of stalls.	Monthly rent.	Receipts for rent.	Received for extra gas.	Back rent collected for Aug. and Sept., 1886.
Butcher.....	18	\$4. 50	\$729. 00	\$44. 00	\$42. 00
Bacon.....	5	4. 00	180. 00		
Butter.....	8	4. 00	278. 00		
Miscellaneous.....	5	4. 00	180. 00		
Fish.....	4	3. 00	96. 00		
Huckster.....	40	3. 00	1, 069. 90		
	80		2, 532. 90	44. 00	42. 00

Total amount received by me and deposited with collector District of Columbia..... \$2, 618. 90
Amount collected by the late market master for July, August, and September, 1886 766. 00
Total receipts for the year 3, 394. 90
Amount received for the fiscal year ending June 30, 1886 (per market master's report) 2, 902. 50
Showing net increase of receipts during the last fiscal year of..... 492. 40a

Q 2.

WASHINGTON, D. C., *September 2, 1887.*

GENTLEMEN: In compliance with your order of July 12, 1887, requiring full reports of the transactions of the different bureaus of the District government for the fiscal year ending June 30, 1887, and estimates of amount required for support of same for fiscal year ending June 30, 1889, I have the honor to submit the following:

For the ten months I have been in charge of Western Market, ending June 30, 1887, the following amounts have been deposited with the collector, viz:

September, 1886.....	\$501.00
October, 1886.....	514.50
November, 1886.....	513.00
December, 1886.....	513.00
Total.....	2,041.50
January, 1887.....	\$510.00
February, 1887.....	511.50
March, 1887.....	511.50
April, 1887.....	511.50
May, 1887.....	508.50
June, 1887.....	502.50
	3,055.50
Total for ten months.....	5,097.00
For two months' collections (July and August) on my predecessor's account	362.25
	5,459.25

See August report (1886) for particulars.

I have no data of the amount expended for gas and water, as the bills do not pass through this office, nor any definite knowledge of amount for repairs, etc., which has been very limited.

I would most respectfully suggest that the Western Market is susceptible of considerable improvement, which would add much to its appearance and afford much greater facilities to the dealers and general public, and, consequently, increase the revenue of the market.

I would suggest, for your better judgment, that sheds be placed in the wagon-yard (there being an abundance of room) for the protection of the dealers' horses and wagons during stormy and wet weather.

Without going into particulars, I most respectfully call the attention of your honorable board to the many absolutely necessary repairs of this market, and respectfully solicit a personal visit in verification of the above. In my opinion, \$2,000 could be very judiciously expended in improving this market, and once in thorough repair would require but small expenditure to keep it in such condition as would be creditable to all concerned.

I would most respectfully suggest, for the consideration of your honorable board, that the market-master of the Western Market receive his full pay (\$1,200) as stipulated by law, and that his deputy be provided for otherwise than out of his salary.

The duties of market-master, if properly attended to, are by no means light. His duties are, to be on hand every market day, during market hours, to answer any complaints that may be made, and to rectify the same if within his power; to be on hand on Saturday nights from 3 o'clock p. m. until 12 o'clock at night, until close of market, and on off days it is necessary for him to be around to see that every-

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thing is clean and in order for ensuing market day ; to collect rents, and make out his monthly reports and submit the same for approval.

Most respectfully submitted.

R. A. WATERS,
In Charge of Western Market.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Q 3.

GEORGETOWN, *November 26, 1887.*

GENTLEMEN : I have the honor to furnish you a detailed statement of the transactions of the Georgetown Market for the fiscal year ending June 30, 1887.

Stands :

Butcher	16
Bacon	4
Huckster	24
Bread and butter	12
Miscellaneous	4
Total	60

Monthly rent, \$2.16 ; number rented, 47.

Receipts :

Rents	\$1,232.42
Sale of fish stands	74.00
Total receipts	1,306.42

Expenses :

Salary of market-master	\$900.00
Amount of gas bill	81.65
Total expenses	981.65
Balance	324.77

I would respectfully state that I have no recommendations to make in regard to the market, as everything is moving in good order there-with.

Very respectfully,

W. H. WILLIAMS,
Market Master.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

R.

REPORT OF CHARITABLE AND REFORMATORY INSTITUTIONS RECEIVING AID FROM DISTRICT OF COLUMBIA REVENUES.

OFFICE OF THE COMMISSIONERS,
DISTRICT OF COLUMBIA,
Washington, December 5, 1867.

To the PRESIDENT :

The Commissioners have prepared and herewith inclose their response to a requirement of law that they shall investigate and make report concerning the operations of all charitable and reformatory institutions in the District which receive aid in whole or in part from the revenues of the District of Columbia, with the request that you will please forward the same to Congress with their annual report.

Very respectfully,

W. B. WEBB,
President.

OFFICE OF THE COMMISSIONERS,
DISTRICT OF COLUMBIA,
Washington, December 5, 1887.

The CONGRESS OF THE UNITED STATES :

In compliance with the clause in the act of Congress making appropriations to provide for the expenses of the government of the District of Columbia for the fiscal year ending June 30, 1888 (U. S. Stats., vol. 24, p. 571), which requires the several institutions included under the heads of asylums, reformatories, industrial schools, and charities named in that act to report to the Commissioners of the District on or before the first day of December, 1887, a full and detailed account of receipts and expenditures, and all their operations, and that the Commissioners shall transmit the said reports to Congress, the Commissioners have notified said institutions to make the reports required, and they herewith forward the same in the manner and form as received.

With respect to the requirement that the Commissioners shall report what legislation is necessary to provide the District with proper institutions of this character, they submit that in view of the limited facilities that have been available for the procurement of information their suggestions on the subject must necessarily be general in character. As the requirement refers to all institutions covered by the terms asylums, reformatories, industrial schools, and charities, it will be seen that all the institutions needed for the care of the poor, the charge and reform of offenders against the laws and ordinances of every kind in force in the District, and the proper industrial training of the indigent youth in the community, are embraced. The range of the enactment

could not well be broader. It takes in all kinds of relief as well as all kinds of discipline, and requires not only a thorough knowledge of the public needs but also exact ascertainment of the methods and scope of the numerous public and private establishments. Different institutions in some cases seem to be doing a like class of work, and it is desirable to know whether it would be advantageous to consolidate or modify the administration of those agencies, and to what extent.

The Commissioners are not prepared to discuss in detail the systems of management now pursued in these institutions. In order to do so with justice it would be necessary to give to them an amount of observation and study utterly impracticable with the limited time and opportunity at their command; and without such observation and study, as they believe, such discussion would not accomplish any very important results. The Commissioners are without available means of providing for the employment of an agent to make such full and complete investigation as the subject demands, and are therefore obliged to be content for the present with the reports with which they have been furnished.

As far as practicable they have visited personally these institutions and have caused them to be visited by a subordinate District official during occasional opportunities offered by abatements in the requirements of regular duties; still they are satisfied that a comprehensive idea of the value of, and necessity for, these institutions can only be derived from such constant and intimate observation as could be given to their workings by an intelligent municipal supervisor, specially charged with that sole duty, and having the right of necessary access to premises and records. They submit a draught of a bill for the appointment of such officer, and prescribing his duties.

The institutions existing in the community and especially referred to in the act aforesaid seem to accomplish, to the extent of their capacity, a very valuable work in a manner generally acceptable. In the opinion of the Commissioners no substantial prejudice would result to any interest involved if the present status were permitted temporarily to continue, with the prospect of such future legislation concerning the institutions and their relations to some general system as may be found advisable upon information received through a system of inspection as that hereinbefore proposed. The following are synopses of the material parts of the reports which have been made to them pursuant to aforesaid requirement:

WASHINGTON ASYLUM.

This is a municipal institution, and comprises the almshouse and the work-houses of the District. The almshouse affords the facilities which are common to such institutions for accommodation and care of paupers, and the work-house is for the confinement and utilization of the labor of those subject to imprisonment for infractions of municipal ordinances in force in the District.

A hospital is also connected with the institution, and is well arranged and equipped for the care and treatment of patients.

The appropriations for the support of this institution for the fiscal year ended June 30, 1887, were as follows:

For salaries.....	
Support.....	\$12,885.00
Dummy engine.....	39,000.00
	2,000.00
	53,885.00

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Expenditures:	
Salaries.....	\$12,762.61
Support.....	38,585.78
	\$51,348.39

Unexpended balance..... 2,536.61

The number received in work-house during the year was 2,369; the number discharged, escaped, and died, was 2,430.

The number received in almshouse during same period was 329; the number discharged was 322.

The average received in hospital was 405, and 20 births; the number discharged and died was 432.

The daily average number in care and custody of the institution was:

Work-house.....	188
Almshouse.....	161
Hospital.....	76

Total..... 425

There were 30 employés on the rolls of the institution during the year.

NEW LOCATION FOR ALMSHOUSE.

The Commissioners reiterate the following comment in their last annual report respecting the site of the almshouse department of the asylum, and the care of the mildly insane with whom the institution has to deal:

The Commissioners have to report again that the site of the asylum is unfit for the purpose to which it is devoted. Aside from the surroundings, the public jail being on one side and the work-house on the other, the location is very unhealthy. No one who visits this institution will hesitate to conclude that a change to a more suitable and healthy situation would be much for the better. In addition, the place is objectionable to the respectable poor, who find such near proximity to the work-house and the District jail offensive. A salubrious, retired, suburban situation should be selected, and a plain, comfortable building erected, suitably arranged for the comfort and health of the unfortunates who are to be its occupants. This can be done without great expense, and the benefits to be derived from it would be almost incalculable. The present building could be made useful either as an addition to the work-house or as a home for inebriates and incurables.

MILDLY INSANE.

The care by the municipal authorities of the mildly insane of the District as a more economical means of treating them than in the Government hospital, and to make room in that institution for the treatment of more violent cases, has been mooted, and led to the suggestion that accommodations for the purpose be established as a part of the Washington Asylum.

This can be readily effected at a small expense by converting one of the magazine houses into fit hospital accommodations for the persons referred to. One of these magazine buildings, as stated above, has been converted into a work-house for female convicts, and answers the purpose admirably. With comparatively little outlay another of these buildings can be converted into an asylum for the weak-minded and moderately insane.

WORK DONE BY INMATES.

This institution should be credited with the work done by its inmates, such as grading, graveling, and clearing streets; working the farm, garden, and dairy; the manufacturing of articles for use of inmates, and numerous other employments in which their labor has been profitably utilized. The annual value in day's labor of such work averages from \$25,000 to \$30,000.

A detailed statement of receipts and expenditures and all other operations of the institution are contained in Appendix A.

ESTIMATE FOR 1889.

The Commissioners included an estimate for this institution for 1889 in their estimates for that year, sent to the Secretary of the Treasury last October.

REFORM SCHOOL.

This institution is situated on the Bladensburg road, about 2 miles north of the city of Washington, and has for its object the reformation of boys under sixteen years of age who become liable to punishment by imprisonment, and boys not amenable to parental or other private disciplinary influence.

It was originally incorporated by Congress as a "House of Correction for Boys," by act approved July 25, 1866 (vol. 14, p. 232, U. S. Stats. L.), but the title was changed to the Reform School of the District of Columbia by act of Congress approved May 6, 1870 (vol. 16, p. 119, U. S. Stat. L.).

It is managed by a corporation, named "Board of Trustees of the Reform School of the District of Columbia," consisting of seven persons, appointed by the President of the United States on recommendation of the Attorney-General (vol. 19, p. 49, U. S. Stat. L.), and two consulting trustees, namely, one Senator, appointed by the presiding officer of the Senate for a term of four years, and one member of the House of Representatives, appointed by the Speaker thereof for a term of two years (*id*, p. 52), and one of the Commissioners of the District of Columbia *ex officio* (vol. 21, p. 156, U. S. Stat. L.).

The necessity for this institution is too apparent to need comment, and there only remains to be added that its usefulness is commensurate with the facilities at the command of those who have it in charge.

The trustees report that fifty-nine boys were received during the fiscal year ended June 30, 1887, and that the daily average number under care during said period was one hundred and fifty-seven, at a cost per capita for the year of \$214.

The receipts—salaries \$11,616, support \$25,000.....	\$36,616.00
The disbursements.....	36,547.45
Balance	68.55

The institution paid \$2,905.88 into the United States Treasury, \$2,201.41 of which were proceeds of sale of farm products and articles produced by labor of inmates, not needed for consumption or use in the institution.

Full details of the operations of the institution and its receipts and expenditures are given in the report of the trustees in Appendix B.

The Commissioners make no estimate for this institution here, for the reason that they included an estimate for it in the annual estimate to the Secretary of the Treasury on October 1, 1887.

INDUSTRIAL HOME SCHOOL.

This institution is located east of Tennallytown road, near the city of Georgetown. Its object is to provide shelter for and to educate in the elementary principles of handicraft, in connection with ordinary mental studies, children between the ages of five and fifteen years, who, from indigency or neglect would otherwise be without such instruction.

Such children are admitted upon order of the court or request of parents and others, after due investigation as to the merits of each case.

The institution was incorporated March 12, 1872, under the act of May 5, 1870, providing for the creation of corporations in the District by general law.

The general control is exercised by a board of managers, elected at annual meetings of the association, held on the last Monday of October.

The sites for the buildings of this institution and the contiguous land used by it belong to the District of Columbia. This ground was deeded to the city of Georgetown by Elisha W. Williams, July 19, 1830, and was used by that corporation for almshouse purposes, but is now occupied by this institution under permission of the Commissioners of the District of Columbia.

The value of the buildings and grounds are estimated at over \$40,000.

The buildings will accommodate about one hundred, but the means at the disposal of the managers are inadequate for the support and care of that number.

The number admitted during the last fiscal year was forty-eight. The monthly average is reported to have been eighty-seven.

The cost per capita for the year of maintenance of dependants, including salaries, supplies, furniture, and ordinary repairs, was \$116.88.

The receipts were:

United States appropriations	\$10,000.00
Other sources	5,152.16

15,152.16

The expenditures	\$12,235.24
Unpaid bills	2,236.28

14,476.52

Unexpended balance 680.64

The cash proceeds of labor of inmates is reported to have been \$930.04. In connection with this there should be taken into consideration that a great quantity of fresh vegetables, etc., raised upon the premises was consumed by inmates, and that many articles of clothing etc., for use of inmates were made by the children, and expenditures to the extent of the value thereof thereby avoided.

The managers estimate as follows for the requirements of the institution:

Support	\$10,000
Promotion of industries	1,000
Steam heating	3,000

Total 14,000

Which the Commissioners deem reasonable.

Detailed statements of operations, receipts, and expenditures are included in Appendix C.

COLUMBIA HOSPITAL FOR WOMEN.

The Columbia Hospital for Women and Lying-in Asylum has for its object, as stated in its act of incorporation, "to found in the city of Washington a hospital and dispensary for the treatment of diseases peculiar to women, and a lying-in asylum, in which those unable to pay therefor shall be furnished with board, lodging, medicine, and medical attendance gratuitously."

Although not seemingly contemplated by its charter, it appears by the report of the board of directors that pay patients also are received.

The institution occupies a large tract of ground fronting on L street, at the northeast corner of Twenty-fifth street, purchased out of an

appropriation made for that purpose by Congress. The title is vested in the United States. (Vol. 17, p. 360.)

The affairs of the corporation are controlled and managed by a board of nineteen directors, appointed pursuant to act of March, 1886 (vol. 14, p. 55), as amended by act of June 10, 1872 (vol. 17, p. 360), and June 7, 1880 (vol. 21, p. 157).

This board includes one Senator to be appointed by the President of the Senate, and two Representatives appointed by the Speaker of the House, to hold for term of single Congress, and one of the Commissioners of the District of Columbia *ex officio* (vol. 21, p. 157, U. S. Stat. L.).

The daily average number of patients in the institution during last fiscal year was 37.

The receipts of the institution during the last fiscal year were:

From United States appropriation	\$15,000.00
Pay patients	8,374.93
	23,374.93
Expenditures	16,303.50
Balance on June 30, 1887	7,071.43

The treasurer reports that this balance will not be more than sufficient to meet expenditures made since July 1 last, for improvements and repairs.

Detailed statement of receipts and expenditures and of all the operations of the institution are contained in Appendix D.

An estimate for this institution for 1889 is included in Commissioners' estimate to Secretary of Treasury for that year.

WOMEN'S CHRISTIAN ASSOCIATION.

The objects of this association, as expressed in its charter, are "to afford relief and aid to the destitute, work for those seeking employment, homes for the homeless, sympathy for the friendless, to reform the fallen, and bestow such Christian benevolence upon the needy as our means allow."

It was chartered under the general incorporation law for the District of Columbia December 13, 1870.

Its affairs are administered by a board of managers indefinite in number, elected annually by the association.

The buildings are located at 1719 Thirteenth street N. W., and with the grounds are valued at about \$50,000. They have a capacity of 62 when fully furnished.

The number of inmates received during the last fiscal year was 157. The daily average was 62.

The receipts during said fiscal year were	\$7,978.62
The expenditures during said fiscal year were	5,980.80
Unexpended balance	1,997.82

The details of the receipts and expenditures as well as the operations of the association are contained in Appendix E.

NATIONAL ASSOCIATION FOR THE RELIEF OF DESTITUTE COLORED WOMEN AND CHILDREN.

The National Association for the Relief of Destitute Colored Women and Children has for its object, as stated in its charter, "the supporting of such aged and indigent colored women and children as may prop-

erly come under the charge of such association, provide for them suitable homes, board, clothing, and instructions, and to bring them under Christian influences."

The charter was granted by Congress February 14, 1863. (Vol. 12, p. 650.)

This institution is controlled and managed by an executive committee consisting of the president, vice-president, secretary, and treasurer of the association, and board of managers composed of nine members.

The secretary of the association estimates the value of the grounds at \$10,000 and of the building at \$38,000. The buildings are situated on Eighth street, north of Boundary, and consist of two-story and basement brick structures, one 50 by 90 feet, and a wing connected with it about half the size of the main building. They were constructed for the purposes of the institution and seem to be kept in good order and to be suitable for the purposes for which they were intended. The capacity of the building is for about 125 children and 15 aged women.

The daily average number of inmates during the year was 109.

The receipts and expenditures during the period under consideration were:

Receipts from appropriation.....	\$9,000.00
Receipts from private sources.....	1,623.00
	10,623.00
Expenditures	11,206.26

A detailed statement of this expenditure and of the operations of the institution are contained in Appendix F.

This institution not only affords accommodations and support to its inmates, but mental and industrial instruction to those of them who are capable of receiving benefit from such training.

ST. ANN'S INFANT ASYLUM.

The object of this institution is to provide for the support and care of foundlings and orphan children and for deserving indigent and dependent females during confinement.

It was chartered by act of Congress, March 3, 1863 (vol. 12, U. S. Stats., p. 798).

The buildings are situated on square 39, at intersection of New Hampshire avenue, K, and Twenty-fourth streets northwest, and are valued at about \$45,000.

It has capacity for accommodation of 85 children, and is now full. It also has supervision of 25 others—infants—who are out "at nurse."

The daily average number of inmates during the year was 110.

The sister in charge reports that the receipts are from \$4,000 to \$4,200, exclusive of the appropriation of \$5,000 made by Congress, and the expenditures average from \$10,500 to \$11,500, the deficiencies being made up from donations. The report also states that a detailed statement of receipts and disbursements of the institution and the vouchers for the past fiscal year have been filed with the accounting officers of the Treasury. A detailed statement of expenditures of the \$5,000 contributed by appropriation is set forth in Appendix G.

CHILDREN'S HOSPITAL.

The object of this institution is the gratuitous medical and surgical treatment of indigent children under the age of twelve years.

390 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

It is chartered under the general incorporation act of the District, under date of December 2, 1870, and amended June 24, 1884.

The buildings are located in square 272 in the city of Washington. They are valued, with the appurtenant ground, at \$80,000, and have a capacity of 60 in the regular white and colored wards, and 15 in the isolated and special wards. The number received during the fiscal year ended June 30, 1887, was 182. The daily average number of inmates was 47. A statement of the receipts and expenditures is contained in Appendix H.

CHURCH ORPHANAGE.

The object of this association is the establishment and maintenance of homes for destitute orphans, and of agencies for the treatment and care of indigent children requiring attention on account of sickness or injury.

It was chartered under the general incorporation laws of the District of Columbia, April 25, 1882, and is controlled and managed by a board of trustees, elected by the association.

The building is located at 525 Twentieth street northwest, and, with appurtenant ground, is valued at \$25,000. It will accommodate, when fully equipped, 70 inmates.

The number received during last fiscal year was 15.

The daily average was 65.

The receipts and expenditures were—

Receipts from District of Columbia appropriation.....	\$1,500.00
Receipts from other sources.....	2,381.78
	3,881.78
Expenditures.....	2,666.34
Unexpended balance June 30, 1887.....	1,215.44

A detailed report of receipts and expenditures and other operations is contained in Appendix I.

WASHINGTON HOSPITAL FOR FOUNDLINGS.

The Washington Hospital for Foundlings was incorporated by act of April 22, 1870 (vol. 16, p. 92).

The management and control of the hospital is intrusted to a board of ten directors, appointed by the hospital corporation.

The building is numbered 1715, Fifteenth street northwest. It consists of two stories and basement, the main building fronting 65 feet, and two wings extending toward the rear of the lot. The present building will accommodate 50 inmates, with the necessary attendants.

The building is estimated at \$25,000, and the grounds upon which it stands and surrounding it \$38,000.

The building could accommodate 50 infants, but other provision would have to be made in part for house for attendants and for furniture and other equipments.

The hospital has received 20 children since its opening on the 4th of last January.

The average cost has been about 50 cents each per day.

The receipts and expenditures were:

Receipts from District of Columbia appropriations.....	\$3,500.00
Receipts from other sources.....	4,714.51
	8,214.51
Amount of expenditures.....	8,214.69
	.18

Detailed statement of the receipts and expenditures and all other operations are contained in Appendix J.

ST. ROSE INDUSTRIAL SCHOOL.

The object of this institution is the instruction of young orphan girls in habits of useful industry, with the view of fitting them for honorable self-support after leaving the school.

It is under the management of Sisters of Charity.

The building is situated on G street, between Twentieth and Twenty-first streets northwest, and, with appurtenant grounds, is valued at about \$43,000. It will accommodate, when fully equipped, about 100 girls.

The number received during last fiscal year was 15. The number at present in the institution is 75.

No detailed statement of receipts and expenditures has been submitted.

The information furnished the Commissioners by the Sister Superior in charge is contained in Appendix K.

HOUSE OF GOOD SHEPHERD.

The object of this institution is the reformation of young girls.

It is chartered under the general incorporation laws of the District of Columbia, and managed and controlled by Sisters of Charity.

The building is located at 1017 Ninth street NW., and with the appurtenant grounds is valued at about \$28,000. It has a capacity for comfortable accommodation of 30 inmates.

The daily average number of inmates during the last fiscal year was 33.

No detailed report of receipts and expenditures has been made to the Commissioners.

The report made by the Sisters in charge is forwarded herewith as Appendix L.

ASSOCIATION FOR WORKS OF MERCY.

This association is designed for the performance of works of mercy of a reformatory and preventive character.

It is chartered under the general incorporation act of the District (Liber 3, fol. 375, etc.). It is managed and controlled by a board of trustees elected by the association.

The association owns and maintains premises No. 2408 K street NW., as a home for fallen women, known as the "House of Mercy."

This property is valued at \$15,500.

It has a capacity for 20 inmates.

The number received during the year 1887 was 20. The daily average of inmates was 12.

A detailed statement of receipts and expenditures is contained in Appendix M.

NATIONAL HOMEOPATHIC HOSPITAL.

This institution was incorporated under the general incorporation law of the District.

Its affairs are managed by a board of trustees elected by the association.

390 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

It is chartered under the general incorporation act of the District, under date of December 2, 1870, and amended June 24, 1884.

The buildings are located in square 272 in the city of Washington. They are valued, with the appurtenant ground, at \$80,000, and have a capacity of 60 in the regular white and colored wards, and 15 in the isolated and special wards. The number received during the fiscal year ended June 30, 1887, was 182. The daily average number of inmates was 47. A statement of the receipts and expenditures is contained in Appendix H.

CHURCH ORPHANAGE.

The object of this association is the establishment and maintenance of homes for destitute orphans, and of agencies for the treatment and care of indigent children requiring attention on account of sickness or injury.

It was chartered under the general incorporation laws of the District of Columbia, April 25, 1882, and is controlled and managed by a board of trustees, elected by the association.

The building is located at 525 Twentieth street northwest, and, with appurtenant ground, is valued at \$25,000. It will accommodate, when fully equipped, 70 inmates.

The number received during last fiscal year was 15.

The daily average was 65.

The receipts and expenditures were—

Receipts from District of Columbia appropriation.....	\$1,500.00
Receipts from other sources.....	2,381.78
	3,881.78
Expenditures.....	2,666.34
Unexpended balance June 30, 1887.....	1,215.44

A detailed report of receipts and expenditures and other operations is contained in Appendix I.

WASHINGTON HOSPITAL FOR FOUNDLINGS.

The Washington Hospital for Foundlings was incorporated by act of April 22, 1870 (vol. 16, p. 92).

The management and control of the hospital is intrusted to a board of ten directors, appointed by the hospital corporation.

The building is numbered 1715, Fifteenth street northwest. It consists of two stories and basement, the main building fronting 65 feet, with two wings extending toward the rear of the lot. The present building will accommodate 50 inmates, with the necessary attendants.

The building is estimated at \$25,000, and the grounds upon which it stands and surrounding it \$38,000.

The building could accommodate 50 infants, but other provision would have to be made in part for house for attendants and for furniture and other equipments.

The hospital has received 20 children since its opening on the 4th of last January.

The average cost has been about 50 cents each per day.

The receipts and expenditures were:

Receipts from District of Columbia appropriations.....	\$3,500.00
Receipts from other sources.....	4,714.51
Expenditures.....	8,214.51
Excess of expenditures.....	8,214.69
	.18

Detailed statement of the receipts and expenditures and all other operations are contained in Appendix J.

ST. ROSE INDUSTRIAL SCHOOL.

The object of this institution is the instruction of young orphan girls in habits of useful industry, with the view of fitting them for honorable self-support after leaving the school.

It is under the management of Sisters of Charity.

The building is situated on G street, between Twentieth and Twenty-first streets northwest, and, with appurtenant grounds, is valued at about \$43,000. It will accommodate, when fully equipped, about 100 girls.

The number received during last fiscal year was 15. The number at present in the institution is 75.

No detailed statement of receipts and expenditures has been submitted.

The information furnished the Commissioners by the Sister Superior in charge is contained in Appendix K.

HOUSE OF GOOD SHEPHERD.

The object of this institution is the reformation of young girls.

It is chartered under the general incorporation laws of the District of Columbia, and managed and controlled by Sisters of Charity.

The building is located at 1017 Ninth street NW., and with the appurtenant grounds is valued at about \$28,000. It has a capacity for comfortable accommodation of 30 inmates.

The daily average number of inmates during the last fiscal year was 33.

No detailed report of receipts and expenditures has been made to the Commissioners.

The report made by the Sisters in charge is forwarded herewith as Appendix L.

ASSOCIATION FOR WORKS OF MERCY.

This association is designed for the performance of works of mercy of a reformatory and preventive character.

It is chartered under the general incorporation act of the District (Liber 3, fol. 375, etc.). It is managed and controlled by a board of trustees elected by the association.

The association owns and maintains premises No. 2408 K street NW., as a home for fallen women, known as the "House of Mercy."

This property is valued at \$15,500.

It has a capacity for 20 inmates.

The number received during the year 1887 was 20. The daily average of inmates was 12.

A detailed statement of receipts and expenditures is contained in Appendix M.

NATIONAL HOMEOPATHIC HOSPITAL.

This institution was incorporated under the general incorporation law of the District.

Its affairs are managed by a board of trustees elected by the association.

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The hospital building is located at corner of Second and N streets NW., and is valued at about \$75,000. The building has a capacity to accommodate 40 patients.

The president reports 89 received this year, with a daily average under treatment of 13.

The receipts and expenditures were—

Receipts for appropriations.....	\$5,000.00
Receipts for other sources	10,820.34
	15,820.34
Expenditures	15,738.75
Unexpended	81.56

Eight thousand two hundred and twenty-six dollars of these expenditures were for construction and repairs of buildings. A detailed statement of receipts and expenditures is contained in Appendix N.

• FUND FOR THE RELIEF OF THE POOR.

In addition to the requirements with which the Commissioners have endeavored to comply by the foregoing report, they are also directed by a clause in the District appropriation act for 1885 (U. S. Stats., vol. 23, p. 127), to make a like report respecting *all* institutions of charity within the District which may be appropriated for out of District revenues, and submit an estimate of appropriations necessary for their maintenance.

The only beneficiaries of such appropriation, other than those heretofore considered, are those that receive donations from the fund of \$15,000 appropriated for the relief of the poor, which has been apportioned by the Commissioners in a way that seems to them best designed to secure its most effective use, as follows:

Compensation to physicians to poor, under supervision and direction of the health officer, District Columbia	\$5,280
Medicines for the poor, upon prescriptions of aforesaid physicians to the poor, etc	3,300
Central Dispensary and Emergency Hospital	2,400
Women's Dispensary	265
Homeopathic Dispensary, including medicines to be dispensed by homeopathic physician to poor	125
Aged Women's Home	250
Night Lodging House	400
Benevolent Society of Washington	400
Women's Exchange	250
For distribution by the police department	2,100
	14,770

The Benevolent Society of Washington has ceased to exist, and consequently no report as to its operations has been made.

There were eleven physicians to the poor, who receive \$40 per month each, and treated 5,072 white and 10,723 colored patients during the year. The vouchers for the payments of their salaries and for the medicines furnished on their order have been forwarded to the Treasury Department according to the customary requirements, for use by the accounting officers of the Treasury in the adjustment of the accounts to which they appertain.

The expenditures from this fund by the police department are also regularly audited.

The reports of the private institutions which received aid from this fund are contained in appendices, viz:

Central Dispensary, Appendix O.
 Women's Dispensary, Appendix P.
 Homeopathic Dispensary, Appendix Q.
 Aged Women's Home, Appendix R.
 Night Lodging House, Appendix S.
 Women's Exchange, Appendix T.

ESTIMATES FOR CHARITABLE AND REFORMATORY INSTITUTIONS.

In view of the difficulty in the way of arriving at a clear idea of the amount the District should contribute for the support of the institutions under consideration, with the meager facilities and opportunities at the Commissioners' command, it is submitted that the amounts appropriated for such support for the current year were doubtless decided upon after full consideration of facts presented to Congress as to the merits and necessities of each case, and that like annual sums in addition to the aid they receive from other sources would probably be sufficient to maintain their present efficiency and for their future requirements until a system of dealing with charitable agencies in the District can be established either in the way proposed in the accompanying draught of bill or as may otherwise be indicated by Congress.

Very respectfully,

WILLIAM B. WEBB,
 SAM'L E. WHEATLEY,
 WILLIAM LUDLOW,

Commissioners of the District of Columbia.

AN ACT providing for the appointment of superintendent of charities and corrections in the District of Columbia, and defining his duties.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That within thirty days after the passage of this act the Commissioners of the District of Columbia shall appoint a resident of the District of Columbia, to be called and known as superintendent of charities and corrections of the District of Columbia, who shall hold his office for three years and until his successor is appointed, and be entitled to receive an annual salary of \$2,500.

SEC. 2. The said superintendent shall have full power at all times to examine the condition and affairs of all institutions and societies in the District of Columbia having for their object the administration of charity or the punishment of offenders, which are supported in whole or in part by appropriations made by the Congress of the United States from the Treasury of the United States, or of the District of Columbia; and it shall be his duty at any time, at the request of the Commissioners of said District, to inquire into and make report concerning the financial and other affairs, condition, methods of operation, government, and all other matters pertaining to the usefulness and good management of such and like institutions in said District; and for this purpose he shall have free access to the grounds and buildings and all books and papers relating to such institutions; and all persons now or hereafter, in any manner connected with such institutions are hereby required and directed to give such information, and afford such facilities for such investigation and inspection as said superintendent may require; and any neglect or refusal on the part of any official or person connected in any capacity with such institutions to promptly comply with the requirements of said superintendent made in pursuance of this section shall be reported to the Commissioners of the District of Columbia, who may thereupon suspend the appropriation or appropriations for such delinquent institution until such requirements are complied with. It shall be lawful for the said superintendent, whenever he shall deem it necessary, to ascertain the truth of any charge or complaint made or circulated regarding the conduct of any officers, agent, or employé of any such institution, to issue compulsory process for the attendance of witnesses, within the District of Columbia, and for the production of books, papers, and other matter,

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and to administer oaths to all witnesses coming before him; and willful false swearing by any witness who may be so examined shall be punished in like manner as is provided for the offense of false swearing in other cases in said District. All persons called as witnesses under the authority granted in this section shall be paid the fees now paid to witnesses in the courts of said District.

SEC. 3. Said superintendent shall, as often as the Commissioners of said District shall require, visit and inspect all the charitable and correctional institutions and societies in said District which he is authorized by law to inspect, and ascertain whether the moneys appropriated for their aid are or have been economically and judiciously expended; and all such moneys shall be paid only in pursuance of due requisitions upon vouchers properly certified by said superintendent and approved by the Commissioners of the District of Columbia.

SEC. 4. Said superintendent shall examine and ascertain whether any charitable or correctional institution or society in the District of Columbia subject to investigation and inspection, as herein provided, will require aid from the public funds for the purposes of its institution, and he shall annually, on or before the 15th of September, report to the Commissioners of said District the result of such inspections and investigations, together with his own conclusions and opinions, and submit detailed estimates in each case of appropriations needful for the ensuing fiscal year.

SEC. 5. Said superintendent shall have direct supervision of the distribution of such funds for outdoor relief as may be allotted for such purpose by the Commissioners of said District, and shall, subject to the approval of said Commissioners, make regulations for the proper disbursement of such funds through the police of said District, or such other agencies as said Commissioners shall deem properly qualified or organized for the purpose; and it shall be his duty to keep full, complete, and exact accounts of all expenditures made in any way out of the public funds on account of said institutions or out of the funds for the outdoor relief of the poor; and for his assistance in keeping said accounts, and in the performance of his other duties under this act, a clerk, who shall at all times perform all duties required of him by said superintendent, may be appointed by said Commissioners and be paid a salary of \$1,200 per annum.

SEC. 6. Whenever, in the opinion of said superintendent, it is necessary or desirable to place in any of the charitable institutions aforesaid any person or persons requiring the aid of such institutions he shall so report to the Commissioners of the District of Columbia, and upon their approval such institutions shall receive said person or persons upon the terms and conditions on which others are received, except where special provision has otherwise been made by law.

SEC. 7. Said superintendent shall keep a set of books accessible to the agents of such institutions and societies, showing the names, residences, and such other facts connected with those who receive aid from such institutions and societies as may be necessary to prevent imposition and duplication of aid. He shall not be directly nor indirectly interested in any contract for building, repairing, furnishing, or maintenance of any of the institutions or societies which by this act he is required to visit, inspect, or co-operate with in any manner. It shall be the duty of the Commissioners of the District of Columbia to assign him a suitable room for his accommodation, and to furnish the books, blanks, and stationery needful for the proper transaction of his business.

SEC. 8. Said superintendent shall have authority to appoint volunteer local visitors without pay for the limited sections of the District, to inspect and report upon applications for aid, and he shall keep a record of such reports.

SEC. 9. Said superintendent, in addition to the annual report required by section 4, shall make quarterly reports of all matters relating to the duties of his office, including inspections, expenditures, and requisitions, so that at all times the Commissioners shall be advised of the condition and efficiency of the service.

A.—REPORT OF THE INTENDANT OF THE WASHINGTON ASYLUM.

WASHINGTON ASYLUM, *August 30, 1887.*

GENTLEMEN: In submitting my annual report of the operations of this institution for the fiscal year ending June 30, 1887, permit me to offer my sincere thanks for the kindly considerations shown in all your actions connected with the management of this institution. Your interest in the welfare of this branch of the District government has been

the means of inculcating a better spirit and feeling among its employés and inmates, and their conduct, on the average, has been better than that of any previous year of my experience.

The general health of the inmates of the almshouse and work-house has been excellent, with the exception of frequent cases of malarial diseases, believed to be traceable to the influences of the marshes of the Eastern Branch. There has also been some sickness among the employés, supposed to arise from the same source.

The discipline of the work-house has in no way relaxed, but the number of cases of punishment has materially decreased. I find, as a rule, that the less punishment the better the general conduct of the prisoners; and that kind words with good advice almost always have better effect than any other mode that could be adopted towards this class of persons.

The daily average number of inmates of the almshouse has increased somewhat over the previous year, while that of the work-house has decreased, especially in the number of able-bodied white tramps, generally sent down as vagrants; consequently the number of days' work performed on the streets the past year will show a corresponding decrease with that of previous years, and a decrease in the credits due the asylum.

The work of improvement at the institution began at the commencement of the fiscal year by the erection of ward 3, for the accommodation of white female patients. This building was erected under the supervision of Mr. Thomas B. Entwistle, inspector of buildings District of Columbia, upon the same plan as the one erected the previous year, which was found to answer all the purposes for which it was intended. The work was completed for \$200 less than the amount appropriated, and the balance was expended in the purchase of new iron bedsteads, etc., and fitting the building for use.

In order to give a uniform front to the hospital grounds facing on 19th street it was found necessary to remove the old ward, formerly occupied by white female patients, to the lower portion of the grounds in rear of the ward occupied by white males. This was accordingly done. The building was placed on a brick foundation, the walls were newly plastered, two chimneys built, water introduced, a new bath-tub, sink, and water-closet erected, and the ward painted inside and out, placing it in a first-class condition. This ward is now occupied by colored male patients, and is found to be well adapted for the purpose for which it is used. The expense of removal and repairs was paid from the contingent fund of the asylum for current expenses, and amounted to \$775.85.

The old frame ward formerly used by the colored male patients, together with the one used as a lying-in ward, having become unfit for further use, were torn down, the grounds graded and seeded to grass, and such portions of the old material as could be used was stored for future use and the rest used as fuel.

The plumbing in the white male ward having become defective, I have had it completely overhauled, and a new bath-tub, two water-closets and sinks with ventilating pipes put in the building, thus placing it in a good sanitary condition.

A partition was placed across one wing of No. 3 ward, and this portion devoted to the use of lying-in patients until a building can be erected for this purpose, which is greatly needed. In reference to a lying-in ward, I would recommend that a building be erected capable of accommodating at least twelve beds and nurses' quarters. This class of patients is constantly increasing. There are eight here now, who are

compelled to find accommodations in a temporary apartment of the white female ward, which is needed for the class for which it was erected. I therefore recommend that an appropriation of \$2,750 be asked for the erection of a building for this service.

This department is sadly in need of a new kitchen and cooking apparatus, also a cellar for storage. I therefore recommend that an appropriation of \$2,500 be asked for the construction of a suitable kitchen, storage-room, cooking apparatus, and furniture for the same.

Among other improvements during the past year a covered porch was built around three sides of the dispensary, finished in oil, the drug-room replastered; all outside and inside walls, including roof, painted, and the dining and sleeping room of the resident physician and students refurnished entire. The kitchen, No. 1 and No. 4 wards, were also newly painted outside and in, including roofs. The tin roofs of the almshouse, carpenter-shop, and stable have each received a coat of paint. The house occupied by the engineer has been repainted inside and out, the old fence and shed removed, and a new fuel-house and closet built, making a decided improvement in the appearance of that portion of the grounds. The building used as quarters by the guard, that was formerly stationed in the magazine grounds, has been repaired, cleaned, and painted, and is now occupied by some of the inmates of the almshouse. Needed repairs to cooking apparatus, heating boilers, and plumbers' work has been done in the different buildings connected with the institution. A large portion of this work was performed by work-house labor, all material and extra labor being paid for from contingent fund.

For details of the hospital department I respectfully refer you to the annexed report of the visiting physician, Dr. Chew, who has been regular in his daily visits, attentive to the wants of his patients, and efficient in the medical treatment of all in need of his services. I desire to express my high appreciation of his personal character and of his professional skill and attentiveness, and hope that his suggestions for the improvement of the hospital department may meet with your approval.

The carpenter work, in addition to that done at the hospital, consists of the erection of two additional piggeries, of six stalls each, with yards which are paved with brick and cobble; the buildings and fences were painted, and water run through the yards. Four box stalls were built in the stable for use of the horses and one for use of cows near calving; also an additional floor 16 by 150 feet for the storage of provender was built over the stalls. A new floor was also laid over a portion of the main floor of the stable. Other necessary repairs have been made to the almshouse and the different work-houses as needed. Nearly all of the boxes of the twenty dump-cars used on the tramway in grading East Capitol street were rebuilt, making them as good as new. The porch of the intendant's house received such repairs as were needed for the year; new wire screens for windows and doors of the different hospital wards were made as required, and old ones repaired. A supply of coffins for use of the indigent poor of the District has been manufactured, and issued as required on order of the health officer and coroner. During the past year there were 480 coffins issued on order of the health officer and 56 used at the asylum.

The work of the blacksmith consists of keeping all tools, carts, iron work, farm implements, and dump-cars in repair, as well as shoeing horses as required. It is impossible to give an exact account of all the work done in this department, but at a fair valuation I believe, if paid for at

any shop in the city, would amount to at least \$1,500 per year. It now costs \$240 in salaries, with a slight outlay for coal and raw material, not exceeding \$150 per annum.

The steam-boilers have been under the care of the engineer and his assistant. As the seven boilers are situated in four different buildings, we have been obliged at times to leave some of them in partial control of such inmates as we could find who were best suited for this work. During the last session of Congress an additional assistant was provided for at \$300 per annum, the same as the first assistant now receives. As the first assistant is now and has been assigned to the most important part of the work, *i. e.*, heating the almshouse and cooking for the entire institution, compelling him to begin work as early as 3 o'clock each morning, I recommend that he be allowed an increase of pay to \$450 per year. Even this increase would not make his pay equal to the value of his labor, or correspond to that received by the engineer according to position and duty preformed.

The new female work-house has been in successful operation during the past year, with the exception of the laundry, which has not been quite up to expectations, due in a great measure to the constant changing of hands. The building is cool in summer and easily warmed in winter, with good ventilation and in an excellent sanitary condition, furnishing comfortable and roomy quarters for the inmates. The house is economically managed and its officers attentive to their duty. The laundry work and the manufacture and repair of the clothing of the inmates is principally done here.

A sick call is made by one of the medical staff every morning and such treatment given as required, and if necessary patients are transferred to the hospital for special treatment. The daily average number of female prisoners has decreased some during the past year.

There were 346 different persons committed to the female work-house during the year, of whom 242 were committed only once, 56 twice, 24 three times, 13 four times, 4 five times, 4 six times, 1 seven times, 1 eight times, and 1 fourteen times, making a total of 551 commitments for 346 different persons. Of this number 111 colored and 7 white persons were twenty-five years of age and under.

The following is a list of the principal articles made during the year:

Work-house coats.....	211	Aprons.....	236
Work-house pants.....	259	Towels, hemmed.....	427
Almshouse coats.....	85	Night-gowns.....	51
Almshouse pants.....	96	Under-bodies.....	56
Check shirts.....	549	Dresses.....	100
White shirts.....	334	Chemise.....	621
Woolen shirts.....	78	Petticoats.....	101
Cotton drawers.....	188	Work-house gowns.....	184
Vests.....	105	Cloak for child.....	1
Bed-ticks.....	225	Baby dresses.....	64
Pillow-ticks.....	75	Baby petticoats.....	83
Sheets.....	847	Baby shirts.....	56
Pillow-cases.....	472	Flannel sacques.....	63
Table covers.....		Flannel petticoats.....	86

There was also repaired by the male prisoners 1,375 pairs of shoes, 44 sets of harness, 2 saddles, 25 halters, 6 collars, and 1 bridle.

No improvements have been made at the male work-house during the past year, other than ordinary repairs, and refurnishing the officers with new bedsteads and mattresses. Since the removal of the female prisoners from this building it has been found much easier to preserve order and discipline, while it also affords more room to the male prisoners, which was much needed. The sanitary condition is good, and the con-

duct of most of the prisoners excellent. The services of many of the prisoners are valuable to the institution, some being excellent mechanics of the various trades and take great interest in the tasks assigned them while here, but on expiration of their sentences generally return to their old haunts and are soon back in the work-house again for another term.

There was 1,370 different persons committed to the male work-house during the year, of whom 1,121 were committed only once, 169 twice, 56 three times, 25 four times, 9 five times, 3 six times, 1 seven times, 1 eight times, and 1 thirteen times, making a total of 1,818 commitments for 1,370 different persons. Of the above number, 323 colored and 65 white persons were twenty years of age and under.

A daily sick call is made every morning, where all who require medical attention are attended to, and those not excused for the day are assigned to one of the working gangs for such work as they are best suited to perform.

Two different gangs have been regularly employed during the year in grading streets, cleaning gutters, cutting weeds, etc., in various parts of the city, for which no other provision has been made, and have accomplished a large amount of work. The time made by the larger gang in grading amounted to 9,215 days' work for men, and 856 days by officers, while the smaller gang employed in street cleaning, and a part of the time in grading, amounted to 3,817 days' work for the men, and 536 days for officers. There was also another small gang employed three times a week in cleaning and collecting refuse materials from the streets adjoining the Center Market. During the year they have performed 1,256 days' labor, and have removed to the asylum grounds 336 loads of manure, etc., which has been composted and used on the farm.

During the fall months of last year a gang was employed for the purpose of cutting weeds, etc., on the vacant lots and parking in various parts of the city; 273 different localities were cut over, as follows: In the first precinct, 21; second, 86; third, 63; fourth, 35; fifth, 29, and sixth, 39. I hope that this work will not be necessary this year, as it increases the expenditure of the asylum, and exposes the prisoners to the gaze of the curious public in the thickly settled parts of the city. I beg leave to suggest that proper notice be given all owners of vacant lots, who allow their property to become overgrown with weeds, etc., to have the same cut at least twice each summer, or that the authorities would have the work done, and the cost of the same be charged as a lien against said property, to be collected as other taxes.

The remainder of the male prisoners not necessary for street work have been employed in cultivating the grounds of the asylum, and have produced a large amount of vegetables, grain, and garden produce, which has been issued to the inmates as required. The following table is an estimated value of the crop, etc., raised during the year:

Articles.	Quantity.	Amount.	Articles.	Quantity.	Amount.
Rye	bushels.. 50	\$30. 00	Tomatoes	bushels.. 300	\$120. 00
Straw	tons.. 5	75. 00	Beets	do... 500	200. 00
Corn-fodder	do... 5	60. 00	Carrots	do... 600	240. 00
Hay	do... 15	240. 00	Grapes	pounds.. 1, 000	50. 00
Ear corn	bushels.. 50	30. 00	Milk	gallons.. 6, 570	1, 314. 00
Onions	do... 20	25. 00	Eggs	dozen.. 1, 095	240. 90
Cabbage	do... 8, 000	320. 00	Veal	pounds.. 485	24. 25
Celery	dozen.. 50	20. 00	Beef	do... 497	24. 85
Potatoes	bushels.. 300	180. 00	Pork	do... 9, 055	452. 75
Pease	do... 50	50. 00			
Turnips	do... 200	50. 00	Total		3, 746. 75

The grounds east of the stable, obtained in exchange with the Parking Commission for the building known as the gunners' house, and about 4 acres of land, has been cleared of trees and planted in cabbage.

A purchase of improved breeding stock of hogs was made during the spring, which is expected to materially improve the stock on hand. The pork made during the past year was produced from the refuse of the tables and small vegetables, no grain being purchased for this purpose. There are now on hand 86 head, including 8 sows in pig and 2 boars. No cholera or other disease has appeared among the herd this year, and all are in a healthy condition. The pens and yards are washed out and cleaned daily, with frequent applications of whitewash, and occasional doses of charcoal and sulphur given to the stock.

Two cows were lost during the year, one a very old one, and the other young and healthy, both of which died in calving, and were in good health and fine condition up to that time. The herd now consists of 10 cows, 1 bull, and a pair of twin yearling heifers, nearly thorough-bred Jerseys, all in good condition.

Several condemned horses have been received from time to time from the fire department, and after a rest and treatment a number of them have been returned again for service much improved. One horse was accidentally killed on the tramway by a loaded car running against it, causing paralysis, and another one was found paralyzed in its stall, and ordered to be killed by the District veterinary surgeon. There are now on the farm 14 horses and 1 mule, the property of the District.

I beg leave to call your attention to the condition of Potter's field and the small-pox hospital, and renew my recommendations made in previous reports, that another site be procured for this purpose. The present ground has been buried over several times, and only a small portion on the extreme edge of the field, near the river, is now available. In connection with estimates for the expenses of the District for the next fiscal year I beg leave to call your attention to the recommendations of the past and former grand juries of the District in regard to the removal of the small-pox hospital from its present close proximity to the jail and asylum, and respectfully recommend that an appropriation be asked for the purchase of land of sufficient extent in some isolated locality for this service and for the burial of the indigent poor of the District. The number of burials in Potter's field last year was 510.

The school established at the work-house for the instruction of children sent to this institution has been kept up during the past year, and has been the cause of much good. Number of days' session, 202; number of scholars attending during the year, 79; daily average number of scholars, 12; number of days' attendance, 2,405.

Religious services have been held each Sabbath, and much interest has been manifested by the inmates in these weekly visits. I can see an improvement in deportment as a result, and owe my sincere thanks to the ladies and gentlemen in charge of this service for their devotion to the cause.

I have the honor to submit the following estimates for the maintenance of the asylum for the fiscal year ending June 30, 1889:

For contingent expenses, including provisions, fuel, forage, lumber, shoes, dry goods, hardware, medicine, services, gas, necessary articles, improvements, and repairs	\$40,000
For the erection and furniture of a lying-in ward to accommodate 12 patients and nurse	2,750
For the erection of a kitchen and cooking apparatus for 100 patients, including cellar, coal-vault, and furniture	2,500

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For the erection of a fire-escape and stand-pipe for the almshouse, and introduction of gas pipes and fixtures and repairs to building	\$1,500
For necessary repairs to buildings, fences, cars, track, etc. (repair fund)	1,000
One intendant	1,200
One matron	600
One visiting physician	1,080
One resident physician	480
One clerk	600
One baker	420
One overseer	800
Six overseers, at \$600 each	3,600
One engineer	600
One assistant engineer	450
One assistant engineer	300
Six watchmen, at \$365 each	2,190
One teacher	300
One female keeper at work-house	300
One female keeper at work-house	180
One blacksmith	365
Two cooks, at \$120 each	240
Three cooks, at \$60 each	180
Five nurses, at \$180 each	900
Total	62,535

Very respectfully,

WALTER H. STOUTENBURGH,
Intendant Washington Asylum.

The Hon. COMMISSIONERS DISTRICT OF COLUMBIA.

STATISTICAL TABLES.

WORK-HOUSE.

Prisoners in work-house July 1, 1886	198
Prisoners received	2,369
Prisoners discharged	2,567
Prisoners eloped	2,393
Prisoners died	32
.....	5
Total number remaining in work-house June 30, 1887	2,430
.....	137

COLOR AND SEX.

White males	844
White females	203
Colored males	974
Colored females	348
.....	2,369

NATIVITY OF INMATES.

<i>Native.</i>		<i>Foreign.</i>	
District of Columbia.....	832	Ireland	211
Virginia	548	Germany	56
Maryland	318	England	36
New York	91	Scotland	11
Pennsylvania	84	Canada	7
Massachusetts	28	Sweden	5
North Carolina	14	Switzerland	3
New Jersey	11	Russia	3
Illinois	11	Cuba	3
Ohio	10	France	3
Georgia	9	Hungary	3
Maine	7	Denmark	2
Tennessee	5	Turkey	2
Delaware	5	Africa.....	1
Rhode Island.....	5	Greece	1
Louisiana	4	Persia	1
Alabama	4	Poland	1
Michigan	4	Belgium.....	1
Mississippi	4	Austria	1
Indiana	4		
Kentucky	4	Foreign	351
South Carolina	3	Native	2,018
Florida	3		
New Hampshire	3	Total	2,369
Connecticut	2		
Texas	1		
Vermont	1		
Oregon.....	1		
Kansas	1		
Wisconsin.....	1		
	2,018		

CHARGES.

Disorderly	925	Injuring a tree	1
Vagrancy	856	Disorderly and destroying private	
Profanity	301	property	1
Carrying concealed weapons	45	Bathing in river at unlawful hours	1
Indecent exposure	42	Vagrancy and concealed weapons .	1
Trespass on park	37	Indecent exposure and concealed	
Destroying private property	28	weapons	1
Cruelty to animals	25	Disorderly and indecent exposure .	1
Throwing stones in street.....	21	Fast driving and profanity.....	1
Disorderly and concealed weapons.	16	Violating hack law	1
Selling liquor without license.....	6	Vagrancy and destroying private	
Fast driving	5	property	1
Disorderly and profanity	5	Disturbing school	1
Placing ashes in street	5	Concealed weapons and destroying	
Peddling without license	4	private property	1
Disturbing church	3	Enticing prostitution.....	1
Violating building regulations	3	Refusing to assist a Metropolitan	
Refusing to pay hack-hire	3	Police officer	1
Playing ball in street	2	Profanity and placing dirt in street	1
Disorderly and vagrancy	2	Eloped and recaptured.....	17
Profanity and destroying private			
property	2	Total	2,369
Profanity and concealed weapons .	2		

ALMSHOUSE.

Number in almshouse July 1, 1886	137
Number received.....	329
	466
	322
Number discharged.....	
Total number remaining in almshouse June 30, 1887	144

400 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

For the erection of a fire-escape and stand-pipe for the almshouse, and introduction of gas pipes and fixtures and repairs to building	\$1,500
For necessary repairs to buildings, fences, cars, track, etc. (repair fund)	1,000
One intendant	1,200
One matron	600
One visiting physician	1,080
One resident physician	480
One clerk	600
One baker	420
One overseer	800
Six overseers, at \$600 each	3,600
One engineer	600
One assistant engineer	450
One assistant engineer	300
Six watchmen, at \$365 each	2,190
One teacher	300
One female keeper at work-house	300
One female keeper at work-house	180
One blacksmith	365
Two cooks, at \$120 each	240
Three cooks, at \$60 each	180
Five nurses, at \$180 each	900
Total	62,535

Very respectfully,

WALTER H. STOUTENBURGH,
Intendant Washington Asylum.

The Hon. COMMISSIONERS DISTRICT OF COLUMBIA.

STATISTICAL TABLES.

WORK-HOUSE.

Prisoners in work-house July 1, 1886	198
Prisoners received	2,369
Prisoners discharged	2,567
Prisoners eloped	2,393
Prisoners died	32
	5
	2,430
Total number remaining in work-house June 30, 1887	137

COLOR AND SEX.

White males	844
White females	203
Colored males	574
Colored females	348
	2,369

NATIVITY OF INMATES.

<i>Native.</i>		<i>Foreign.</i>	
District of Columbia.....	832	Ireland	211
Virginia	548	Germany	56
Maryland	318	England	36
New York	91	Scotland	11
Pennsylvania	84	Canada	7
Massachusetts	28	Sweden	5
North Carolina	14	Switzerland	3
New Jersey	11	Russia	3
Illinois	11	Cuba	3
Ohio	10	France	3
Georgia	9	Hungary	3
Maine	7	Denmark	2
Tennessee	5	Turkey	2
Delaware	5	Africa	1
Rhode Island	5	Greece	1
Louisiana	4	Persia	1
Alabama	4	Poland	1
Michigan	4	Belgium	1
Mississippi	4	Austria	1
Indiana	4		
Kentucky	4	Foreign	351
South Carolina	3	Native	2,018
Florida	3		
New Hampshire	3	Total	2,369
Connecticut	2		
Texas	1		
Vermont	1		
Oregon	1		
Kansas	1		
Wisconsin	1		
	2,018		

CHARGES.

Disorderly	925	Injuring a tree	1
Vagrancy	856	Disorderly and destroying private property	1
Profanity	301	Bathing in river at unlawful hours	1
Carrying concealed weapons	45	Vagrancy and concealed weapons	1
Indecent exposure	42	Indecent exposure and concealed weapons	1
Trespass on park	37	Disorderly and indecent exposure	1
Destroying private property	28	Fast driving and profanity	1
Cruelty to animals	25	Violating hack law	1
Throwing stones in street	21	Vagrancy and destroying private property	1
Disorderly and concealed weapons	16	Disturbing school	1
Selling liquor without license	6	Concealed weapons and destroying private property	1
Fast driving	5	Enticing prostitution	1
Disorderly and profanity	5	Refusing to assist a Metropolitan Police officer	1
Placing ashes in street	5	Profanity and placing dirt in street	1
Peddling without license	4	Eloped and recaptured	17
Disturbing church	3		
Violating building regulations	3	Total	2,369
Refusing to pay hack-hire	3		
Playing ball in street	2		
Disorderly and vagrancy	2		
Profanity and destroying private property	2		
Profanity and concealed weapons	2		

ALMSHOUSE.

Number in almshouse July 1, 1886	137
Number received	329
	466
Number discharged	322
Total number remaining in almshouse June 30, 1887	144

402 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

COLOR AND SEX.

White males	198
White females	56
Colored males	46
Colored females	29
	329

RECAPITULATION.

Daily average number of inmates in asylum from July 1, 1886, to June 30, 1887.

Work-house	188
Almshouse	161
Hospital	76
Employés	30
Total	455

ALMSHOUSE INMATES.

<i>Native.</i>		<i>Foreign.</i>	
District of Columbia	66	Ireland	77
Virginia	47	Germany	26
Maryland	31	England	14
New York	17	Scotland	3
Pennsylvania	12	Canada	2
Ohio	4	Hungary	1
New Hampshire	4	Austria	1
Kansas	4	Denmark	1
Connecticut	3	Baden	1
New Jersey	2	At sea	1
Massachusetts	2		
Indiana	2	Foreign	127
Indian Territory	2	Native	202
North Carolina	1		
Kentucky	1	Total	329
Illinois	1		
Maine	1		
Tennessee	1		
Georgia	1		
	202		

Detailed account of receipts and expenditures of Washington Asylum from July 1, 1886, to June 30, 1887 :

1886.		
July,	W. H. Stoutenburgh, intendant	\$1 200.00
	Sarah F. Stoutenburgh, matron	600.00
	Thos. I. Chew, visiting physician	1,080.00
	C. M. Rawlings, resident physician	480.00
	D. Tindall, clerk	600.00
	H. Miller, baker	70.80
	R. Nolan, baker	41.13
	H. Kotte, baker	280.40
	F. B. Graff, overseer	800.00
	H. C. Addison, overseer	600.00
	D. Stewart, overseer	600.00
	G. Martin, overseer	600.00
	G. W. McMahon, overseer	600.00
	R. A. Milstead, overseer	600.00
	J. J. McGugan, engineer	600.00
	J. D. C. Stoutenburgh, assistant engineer	300.00
	F. McEntee, watchman	365.00
	J. D. O'Connor, watchman	365.00
	W. Arnold, watchman	365.00

1886.
July.

S. E. Arnold, watchman.....	\$365.00
C. S. Prather, blacksmith.....	180.00
R. F. Ratherdale, blacksmith.....	60.00
C. T. Torrey, watchman.....	24.79
F. W. Cobey, watchman.....	217.54
H. Davey, watchman.....	55.10
Christine Hilfinger, teacher.....	293.45
Frances Ferguson, keeper female work-house.....	293.45
Ida Barnes, keeper female work-house.....	86.05
Emily Watkins, keeper female work-house.....	90.00
Patrick Noonan, ambulance driver.....	28.55
David Kerr, ambulance driver.....	51.89
Thos. McCanna, ambulance driver.....	17.38
Wm. F. Smith, ambulance driver.....	12.28
Edward Hardy, ambulance driver.....	9.90
Henry Henson, hostler.....	120.00
Harriet Dotson, cook.....	120.00
Ada Tyng, cook.....	60.00
Elizabeth Brown, cook.....	60.00
Edwin Watts, nurse.....	149.80
Robert Willard, nurse.....	1.99
George Smith, nurse.....	28.21
James Garnett, nurse.....	60.00
Kate Bishop, nurse.....	60.00
Mary E. Jackson, nurse.....	60.00
Mary Simms, cook.....	30.10
Josephine Johnson, cook.....	14.80
Annie Bailey, cook.....	4.95
Annie Munday, nurse.....	12.71
Charlotte Johnson, nurse.....	27.14
Honora Reed, nurse.....	5.15
Louise McKenzie, nurse.....	15.00
W. M. Galt & Co., flour and forage.....	410.85
C. C. Carroll, fresh and corned meat.....	492.14
J. B. Bryan & Bro., groceries.....	346.63
Frank Hume, groceries, hams, and bacon.....	258.04
Browning & Middleton, groceries.....	105.51
Geo. A. Shehan, lumber.....	106.62
Robert Cohen, shoes.....	93.70
J. C. Ergood, groceries.....	26.91
Scheller & Stevens, drugs.....	94.45
George J. Johnson, dry goods.....	50.75
Great Falls Ice Company, ice.....	31.00
W. G. Copeland & Co., 6 window awnings.....	30.00
Jackson & Co., groceries.....	10.10
Jackson & Co., market bill.....	25.00
Bates & Johnson, 1 Korting injector.....	23.00
J. Lee White, 5,000 cabbage plants.....	10.00
Albert Veune, 1,500 celery plants.....	4.50
Washington Gas-Light Company.....	16.65
M. J. Fitzgerald, carpenter.....	51.00
E. C. Gatchell, carpenter.....	36.00
W. A. Clark, carpenter.....	18.00
J. H. Atchinson, extra service.....	27.00
J. S. Stettinius, extra service.....	33.75
James Stewart, extra service.....	12.50
W. M. Galt, & Co., flour and forage.....	379.56
C. C. Carroll, fresh and corned meat.....	461.74
J. B. Bryan & Bro., groceries.....	245.33
Barbour & Hamilton, groceries.....	87.74
J. C. Ergood, groceries.....	28.76
Scheller & Stevens, drugs.....	62.40
Lansburgh & Bro., dry goods.....	651.05
George J. Johnson, dry goods.....	144.73
Robert Cohen, shoes.....	61.30
W. H. Butler, paints, oils, etc.....	120.39
H. I. Gregory, tin-ware, stoves, etc.....	91.00
Jackson & Co., market bill.....	25.00
Great Falls Ice Company, ice.....	31.62

Aug.

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1886.		
Aug.	Jackson & Co., groceries	\$11.00
	John T. Springman, 12 car standard tables	48.88
Sept.	Johnson & Bro., coal	2,170.80
	Johnson & Bro., wood	101.40
	W. M. Galt & Co., flour and forage	443.43
	C. C. Carroll, fresh and corned meat	456.33
	J. C. Ergood, groceries	24.86
	J. B. Bryan, groceries	265.73
	Browning & Middleton, for August, groceries	100.68
	Browning & Middleton, groceries	111.27
	Scheller & Stevens, drugs	72.00
	Robert Cohen, shoes	113.20
	Jackson & Co., groceries	14.73
	William Ballantyne & Son, stationery	23.67
	George J. Johnson, dry goods	48.70
	W. O. Berry, repairing gutters, roofs, chimneys, etc	82.33
	Washington Gas-Light Company, gas	19.20
	Wash. B. Williams, two dozen wood chairs	8.50
	R. Leitch & Son, plumbers' supplies	3.43
	E. C. Gatchell, August, carpenter	78.00
	W. A. Clark, August, carpenter	78.00
	M. J. Fitzgerald, August, carpenter	54.00
	J. H. Atchinson, August, extra service	26.00
	J. S. Stettinius, August, extra services	32.50
	Malcolm Hurdle, August, extra service	25.00
	J. Stewart, August, extra service	12.50
	E. C. Gatchell, September, carpenter	60.00
	W. A. Clark, September, carpenter	28.50
	J. H. Atchinson, September, extra service	25.00
	J. S. Stettinius, September, extra service	32.50
	J. Stewart, September, extra service	12.50
	George Fichter, September, extra service	13.50
	F. W. Cobey, September, extra service	21.25
	Singer Sewing Machine Company, repairing	5.68
	J. T. Springman & Son, grate bars and bearings for furnace	122.57
	Washington Gas-Light Company, gas	18.30
	H. I. Gregory, 1 sad-iron stove	35.00
	Johnson & Bro., coal	3.65
	Jackson & Co., market bill	25.00
	E. G. Wheeler, 2 horse blankets	10.20
	J. Rebeire, treatment of sick horse	12.00
	Thos. Norfleet, bridles, reins, collars, etc	42.00
	Frank P. May, 1 Howe scale, fish plates, bolts, railroad spikes, etc	70.65
	Lutz Bro., harness repairs	1.50
	Great Falls Ice Company, ice	30.00
	Louis Meyers, mattresses	325.00
Oct.	Judd & Detweiler, printing	3.50
	W. M. Galt & Co., flour and forage	464.86
	C. C. Carroll, fresh and corned meat	468.87
	J. B. Bryan, groceries	354.41
	Browning & Middleton, groceries	96.31
	J. C. Ergood, groceries	24.96
	Frank Hume, groceries, ham, and bacon	823.75
	Leon Solomon, 3 cows	225.00
	W. H. Butler, paints, oils, etc	156.08
	Robert Cohen, shoes	104.20
	Scheller & Stevens, drugs	70.73
	Robert Leitch, plumber material	42.92
	J. A. Baker, bone dust, scythes, etc	42.85
	Washington Gas-Light Company, gas	36.39
	Great Falls Ice Company, ice	31.00
	H. I. Gregory, wash basins, tin cups, charcoal, etc	21.25
	Jackson & Co., groceries	7.75
	Pettit & Dripps, steam-gauge, water-glasses, etc	6.35
	Jackson & Co., market bill	25.00
	W. L. King & Bro., sole and harness leather, buckles, rings, etc	51.44
	James T. Bagley, 10 pigs	25.00
	W. J. C. Dalaney & Co., 1 Webster's Dictionary	9.00
	E. C. Gatchell, carpenter	78.00

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 405

1886.

Oct.	W. A. Clark, carpenter	\$36.00
	J. S. Stettinius, extra service	32.50
	J. S. Stewart, extra service	12.50
	George Fichter, extra service	26.00
	J. H. Atchinson, extra service	7.00
	Thomas Somerville & Son, 12 square feet sheet gum	5.32
	W. B. Moses, carpet, furniture, etc	245.07
	H. W. Blunt, 2 barrels cement	2.10
	E. N. Gray & Co., repairing boilers, etc	4.12
	Stott & Cromwell, 1 gross combs	9.00
	J. M. Wheatley, 9 barrels lime	8.55
Nov.	W. M. Galt & Co., flour and forage	516.38
	C. C. Carroll, fresh and corned meat	469.10
	George J. Johnson, dry goods	547.74
	Johnson Bros., coal	116.00
	Browning & Middleton, groceries	105.81
	Scheller & Stevens, drugs	99.09
	J. B. Bryan & Bro., groceries	356.58
	Robert Cohen, shoes	102.40
	B. Bailey, hardware	214.50
	Geo. A. Shehan, lumber	200.27
	W. H. Butler, paints and oil	94.74
	Saks & Co, 200 pairs cotton flannel drawers	75.00
	H. I. Gregory, baking pans, iron buckets, coal-hods, pipe, etc... ..	54.80
	E. G. Wheeler, horse blankets, gum blankets, brushes, etc	51.25
	Washington Gas-Light Company, gas	40.26
	Jackson & Co., for November, groceries	23.97
	Jackson & Co., for December, groceries	38.00
	Great Falls Ice Company, ice	33.75
	J. C. Ergood, groceries	26.77
	H. Hempler, 6 pair spectacles	7.50
	E. C. Gatchell, carpenter	60.00
	W. A. Clark, carpenter	72.00
	J. S. Stettinius, extra service	31.25
	J. Stewart, extra service	12.50
	Geo. Fichter, extra service	25.00
	Jackson & Co., extra service	24.35
	A. W. Cullmore, moving building	300.00
	A. W. Cullmore, moving building	340.00
	A. W. Cullmore, moving building	58.50
	Cole & Green, plumbing	77.35
Dec.	W. M. Galt & Co, flour and forage	380.72
	Frank Hume, groceries, hams, and bacon	432.42
	Geo. J. Johnson, dry goods	114.00
	Lansburgh Bros., dry goods	247.88
	J. B. Bryan, groceries	351.84
	Browning & Middleton, groceries	135.80
	H. I. Gregory, galvanized iron buckets, repairs to stoves, ranges, etc	108.65
	Robert Cohen, shoes	94.90
	T. A. Cannon, turkey, apples, etc	83.50
	Scheller & Stevens, drugs	58.23
	J. C. Ergood, groceries	24.97
	Wm. Ballantyne, stationery	14.75
	W. H. Douglass, repairs to pump	6.50
	Stott & Cromwell, $\frac{1}{2}$ gross combs	4.50
	W. H. Butler, paints, oils, etc	4.50
	E. C. Gatchell, carpenter	78.00
	W. A. Clark, carpenter	21.00
	Geo. Fisher, extra service	26.00
	J. S. Stettinius, extra service	32.50
	J. Stewart, extra service	12.50
	Jas. Hughes, brick for fire-place for boiler	53.00
	Great Falls Ice Company, ice	21.19
	Thos. Norfleet, padding and repairing saddle	3.00
	R. Leitch & Son, plumbers' supplies	5.50
	C. C. Carroll, fresh and corned meat	461.25
	Barbour & Hamilton, groceries	158.63
	J. L. Barbour, groceries	15.60
	James B. Henderson, papering rooms	35.95

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1886.		
Dec.	Jackson & Co., groceries.....	\$60.20
1887.		
Jan.	Jackson & Co., market bill.....	25.00
	W. M. Galt, flour and forage.....	413.73
	J. B. Bryan & Bro., groceries.....	270.84
	C. C. Carroll, fresh and corned meat.....	480.21
	Browning & Middleton, groceries.....	110.54
	J. C. Ergood, groceries.....	26.16
	Scheller & Stevens, drugs.....	112.48
	Jackson & Co., groceries.....	10.10
	Robert Cohen, shoes.....	112.90
	George J. Johnson, dry goods.....	65.04
	Jackson & Co., market bill.....	25.00
	J. B. Kendall, cart-hubs, spokes, axles, felloes, bolts, etc.....	50.92
	J. W. Boteler, crockery ware, knives, forks, etc.....	116.15
	James L. Barbour, groceries.....	32.64
	George A. Shehan, lumber.....	149.64
	W. L. King & Bro., sole leather.....	27.21
	John A. Baker, seed, hay, rakes, etc.....	19.73
	Wash. B. Williams, three dozen chairs.....	17.50
	Great Falls Ice Company, ice.....	17.39
	W. H. Butler, paints, oils, etc.....	13.15
	Charles Fisher, repairing hospital instruments.....	2.00
	E. C. Gatchell, carpenter.....	78.00
	J. S. Stettinius, extra service.....	32.50
	George Fichter, extra service.....	26.00
	J. Stewart, extra service.....	12.50
Feb.	W. M. Galt, flour.....	261.00
	C. C. Carroll, fresh and corned meat.....	449.21
	J. B. Bryan, groceries.....	326.24
	J. C. Ergood, groceries.....	25.71
	Jackson & Co., market bill.....	24.75
	Scheller & Stevens, drugs.....	72.82
	Robert Cohen, shoes.....	106.90
	George J. Johnson, dry goods.....	79.75
	Great Falls Ice Company, ice.....	17.50
	James Hughes, repairing brick work.....	12.00
	Stott & Cromwell, $\frac{1}{2}$ gross combs.....	4.50
	Lewis Baar, repairing sewing-machine.....	2.50
	Henry Lyles, sand.....	.80
	H. I. Gregory, ration boxes, tin cups, fire-brick, grates, etc.....	100.00
	R. Leitch & Son, plumbers' supplies.....	29.18
	W. L. King & Bro., sole leather.....	27.27
	E. N. Gray, repairing boiler.....	22.31
	Judd & Detweiler, blank books, labels, etc.....	19.00
	E. C. Gatchell, carpenter.....	69.00
	J. S. Stettinius.....	30.00
	J. Stewart.....	12.50
	Geo. Fichter, extra service.....	8.00
Mar.	W. M. Galt, forage.....	130.56
	W. M. Galt, flour and forage.....	482.85
	C. C. Carroll, fresh and corned meat.....	513.12
	Browning & Middleton, groceries.....	115.36
	Frank Hume, groceries, hams, and bacon.....	744.04
	Barbour & Hamilton, groceries.....	32.89
	Wm. Ballantyne & Son, stationery.....	30.30
	Jackson & Co., groceries.....	18.20
	J. C. Ergood, groceries.....	24.86
	H. A. Green, 4 diaphragms for Haws' steam trap.....	6.00
	Lansburgh & Bro., dry goods.....	237.31
	Geo. J. Johnson, dry goods.....	95.00
	Scheller & Stevens, drugs.....	92.71
	Stott & Cromwell, 1 gross combs.....	9.00
	Robert Cohen, shoes.....	153.70
	J. B. Bryan, groceries.....	310.24
	Leon Solomon, 1 bay horse.....	250.00
	Jackson & Co., market bill.....	25.00
	Frank P. May, weather-strips, tobacco-cutter, drawer locks, handles, etc.....	20.45
	Great Falls Ice Company, ice.....	18.00

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Mar.	Judd & Detweiler, blank requisitions	\$3.25
	Wash. B. Williams, 1 cabinet chair	2.50
	Lutz Bro., rubber and check bit, 1 each	5.00
	J. W. Boteler, crockery ware	32.69
	Hartford Woven Wire Mattress Company, 2 iron bedsteads	12.65
	Browning & Middleton, groceries	91.18
	D. B. Kealey, carpenter	9.00
	E. C. Gatchell, carpenter	81.00
	J. S. Stettinius, extra service	33.75
	J. Stewart, extra service	12.50
Apr.	W. M. Galt, flour and forage	475.70
	C. C. Carroll, fresh and corned meat	497.06
	J. B. Bryan, groceries	313.48
	Browning & Middleton, groceries	114.06
	J. C. Ergood, groceries	23.95
	Geo. J. Johnson, dry goods	110.79
	Robert Cohen, shoes	93.40
	Scheller & Stevens, drugs	100.31
	W. H. Butler, paints, oils, and glass	30.78
	W. L. King, sole leather	27.07
	Wash. B. Williams, 1 dozen oak arm-chairs	17.00
	E. H. Jones, 3,000 strawberry plants	15.00
	E. F. Street, 1 aromatic steam cooker	4.00
	Lutz Bros., 1 dozen condition powders	3.00
	Johnson & Bro., coal	565.65
	Jno. A. Baker, garden seed and agricultural supplies	84.15
	W. B. Moses, carpets, furniture, etc	93.98
	Barbour & Hamilton, groceries	28.90
	Jackson & Co., groceries	15.05
	W. L. King, sole leather	27.25
	Robert Leitch & Son, plumber supplies	23.66
	B. Bailey, hardware	162.64
	Great Falls Ice Company, ice	22.23
	Judd & Detweiler, 1 book to order	10.00
	E. C. Gatchell, carpenter	72.00
	D. B. Kealey, carpenter	73.50
	J. S. Stettinius, extra service	32.50
	J. Stewart, extra service	12.50
	J. M. Wheatley, lime	19.00
May.	W. M. Galt, flour and forage	491.40
	C. C. Carroll, fresh and corned meat	472.17
	J. B. Bryan, groceries	332.74
	Browning & Middleton, groceries	102.53
	Johnson Bro., coal	182.50
	Geo. A. Shehan, lumber	122.84
	H. I. Gregory, cooking utensils, buckets, basins, etc	70.00
	G. J. Johnson, dry goods	64.60
	J. C. Ergood, groceries	26.31
	Wm. Ballantyne & Son, stationery	18.00
	Scheller & Stevens, drugs	96.28
	Jno. McDermott & Bro., painting and repairs to carriage	66.00
	Jackson & Co., market bill	25.00
	Jackson & Co., groceries	25.60
	E. G. Wheeler, curry-comb, hame-strings, and whip	7.70
	John McDermott, 1 light wagon	175.00
	Robert Cohen, shoes	107.20
	Landsburgh Bros., dry goods	169.41
	J. W. Boteler, dishes, knives, etc	77.96
	John A. Baker, guano, bone-dust, etc	61.63
	Saks & Co., 12 dozen pairs drawers	37.20
	Wm. Gibbons, 1 Berkshire boar, shipping, etc	35.40
	Great Falls Ice Company, ice	30.35
	R. Leitch & Son, plumbers' supplies	11.57
	H. W. Blunt, 1 barrel cement	1.05
	E. C. Gatchell, carpenter	54.00
	D. B. Kealey, carpenter	24.00
	J. S. Stettinius, extra service	31.25
	J. Stewart, extra service	12.50
	L. F. Dorn, extra service	7.50
	H. Heynich, extra service	13.20

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1887.

May.	Public Printer, printing	\$4.90
	Washington Gas-Light Company, gas	46.39
	Do	46.77
	Do	37.64
	Do	37.63
June.	W. M. Galt, flour and forage	427.90
	C. C. Carroll, fresh and corned meat	471.57
	J. C. Ergood, groceries	26.27
	Geo. J. Johnson, dry goods	138.00
	Robert Leitch & Son, pipe and fittings	10.05
	F. Hume, groceries, ham, and bacon	703.09
	Robert Cohen, shoes	82.90
	W. L. King, sole leather	27.07
	G. W. Fitts, disinfectant	13.50
	Browning & Middleton	116.14
	Browning & Middleton (hospital supplies)	10.15
	B. Bailey, hardware	79.37
	H. S. Johnson, harness, etc	6.00
	Jackson & Co., for May, market bill	25.00
	Jackson & Co., groceries	22.22
	Hartford Woven Wire Mattress Company, 50 iron bedsteads	292.50
	Jackson & Co., for June, market bill	25.00
	Jackson & Co., groceries	14.50
	E. G. Wheeler, rubber sheets, tarred felt, etc	15.25
	Louis Meyers, 3 mattresses and bolsters	13.50
	H. I. Gregory, repairs to stoves, iron buckets, etc	11.60
	W. H. Butler, paints, oils, brushes, etc	103.52
	Jno. A. Baker, seed, agricultural supplies, etc	24.75
	Lutz Brother, fly and ear nets for horse	9.00
	J. B. Bryan, groceries	352.93
	Auerbach & Co., 4 dozen hats, 12 dozen men's hose	39.00
	H. W. Blunt, 2 barrels cement	2.10
	Cole & Green, plumbing, material, labor, etc	267.50
	Barbour & Hamilton, groceries	61.59
	Scheller & Stevens, drugs	49.16
	George A Shehan, lumber	81.64
	William Ballantyne & Son, stationery	4.97
	W. H. Butler, varnish, lamp-chimneys	3.98
	James H. McGill, stall-guards and corner-mangers for stable	41.50
	John A. Baker, one-half bushel sugar corn	3.00
	Great Falls Ice Company, ice	33.23
	Pettit & Drips, repairs to boiler	12.55
	V. Clinton Reynolds, one barrel pitch	2.16
	W. B. Moses, house furnishing	30.22
	J. M. Wheatley, lime	9.00
	E. C. Gatchell, carpenter	75.00
	L. F. Dorn, extra service	39.00
	J. S. Stettinius, extra service	33.75
	J. Stewart, extra service	12.50
	H. Heynich, extra service	8.58
	F. H. Smith, insurance	40.57
	Pay-roll	19.16
	Washington Gas-Light Company, April gas	50.67
	Washington Gas-Light Company, May gas	18.01
	Washington Gas-Light Company, June gas	21.20
		<u>38,585.78</u>
	Appropriation for contingent expenses	39,000.00
	Expended	<u>38,585.78</u>
	Remaining	414.22
Outstanding bills:		
	W. J. C. Dulaney & Co., stationery	\$8.03
	J. W. Boteler, crockery	4.35
	F. C. May, hardware	34.55
	J. B. Kendall, wagon material	2.19
		<u>49.12</u>
		365.10

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 409

Appropriation for salaries	\$12,885 00	
Expended	12,762.61	\$122.39
Appropriation for dummy engine	2,000.00	
Unexpended	2,000.00	2,000.00
Total unexpended balance		2,487.49

Respectfully, etc.,

W. H. STOUTENBURGH,
Intendant, W. A.

WASHINGTON ASYLUM HOSPITAL, 1887.

SIR: I have the honor to submit the following annual report of the Washington Asylum Hospital for the year ended June 30, 1887:

Number admitted from July 1, 1886, to June 30, 1887.....	405
Number of births	20
Remaining in hospital, July 1, 1886.....	80
Total	505
Number discharged from July 1, 1886, to June 30, 1887.....	377
Number of deaths	55
Remaining in hospital, June 30, 1887	73
Total	505

CLASSIFICATION.

White males	154
White females	64
Total white	218
Colored males	112
Colored females	75
Total colored	187

NATIVITY.

District of Columbia.....	100	Texas	1
Virginia	91	West Virginia	1
Maryland	63	Ireland	53
New York	13	Germany	18
Pennsylvania	12	England	11
Georgia	12	France	4
Massachusetts	12	Scotland	3
Louisiana	4	Switzerland	1
New Hampshire	2	Persia	1
Florida	2	Total	405
Delaware	1		

CAUSES OF DEATH.

Senile debility	16	Scrofula.....	1
Phthisis pulmonalis	5	Fibroid of uterus.....	1
Chronic diarrhea.....	4	Peritonitis.....	1
Syphilis	3	Asthma	1
Mitral regurgitation.....	3	Alcoholism	1
Pneumonia	3	Hydropericardium	1
Cancer of uterus	2	Asphyxia	1
Hemiplegia	2	Puerperal fever	1
Trismus	3	Congestion of bowels.....	1
Sclerosis	1	Cystitis	1
General anasarca.....	1	Enterocolitis	1
Cerebral hemorrhage	1		55
Gangrene of lungs.....	1		

Number of prescriptions compounded, 31,298.

410 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Since my last annual report, the new ward for white females has been completed, and has proved very satisfactory. The old ward which it replaced has been moved to another part of the grounds and fitted up for colored males.

I would earnestly recommend an appropriation for a new lying-in ward. The old building became totally unfit for use and was condemned and torn down. We are now forced to use one wing of the new female ward and find it very inconvenient in many respects; and besides, the building is insufficient to accommodate the two sets of patients.

We will need a new ward for white males in the near future. New water-closets have been put in the old ward and some needed repairs made, and it will answer for the present.

I would also call attention to the necessity for a new kitchen and appliances for the hospital. The old kitchen has become entirely unfit for use, and it is impossible to prepare food properly for the patients with the present arrangements for cooking.

I would urge in this connection that the diet of the hospital be improved, so as to be equal to that of the other hospitals in the city.

I would again call attention to the importance of securing a better class of nurses, and would recommend that the pay of each be raised to \$15 per month.

The sanitary condition of all the buildings, almshouse, hospital buildings, and workhouses has been good throughout the year.

Respectfully,

Mr. W. H. STOUTENBURGH,
Intendant Washington Asylum.

THOS. I. CHEW,
Visiting Physician Washington Asylum.

B.—REPORT OF THE BOARD OF TRUSTEES OF THE REFORM SCHOOL.

REFORM SCHOOL OF THE DISTRICT OF COLUMBIA,
October 20, 1887.

SIRS: The last annual report of the board of trustees was made by Mr. Henry A. Willard, who, since then, much to the regret of the trustees and officers of the school, tendered his resignation to the President of the United States as a member of the board of trustees.

Mr. Willard was a member of this board for over twelve years. He gave his time and services without stint, and was at all times ready to contribute by his advice and services to the good and welfare of the school.

It now becomes my duty as his successor to make this, the eighteenth annual report of the operations of the school.

Since the school was first organized and put in operation 1,237 boys have been received, cared for, instructed, and I trust materially, and in most cases permanently, benefited and improved.

At the commencement of the last fiscal year there were 168 boys in the school, and during the year 59 were added, making a total for that year of 227. The maximum number during the year was 169; the minimum was 144; the average being 157. For further statistics you are respectfully referred to the report of the superintendent herewith.

I hope and believe that the boys who have been honorably discharged have gone into the world with the determination and ability to make for themselves an honest living and become good citizens. Upon our receipt of them they were as a rule uneducated and without proper ideas of what was due from them to their country or what was expected of them. With the training and experience they have had there is no reason why these boys should not now grow up useful citizens.

I regret to have to report the death of two boys. This, however, is something that must be looked for, and is beyond the power and control of the wisest.

Since the opening of the school twenty years ago there have been but 9 deaths out of a total population of 1,237, which, it must be admitted, is a very small percentage, and speaks well for the care and attention given to the boys by those having them under their charge and control.

One subject has occupied the attention of the board of trustees for some time, which is, what to do with many boys who, having gained their "honor," which entitles them to a discharge, have no homes or friends to provide for them. To discharge them upon the world without friends or homes is to force them back upon it to a condition worse than that from which they were taken when first placed in the school.

Other institutions have appropriations which can be used by the officers in finding homes and paying the expenses of the boys thereto. An estimate has been submitted in the appropriations for the current expenses of the school of \$500, which it is to be hoped will be allowed by Congress. We desire to try the experiment upon a small scale during the coming year of sending to such homes as can be obtained such of the boys as are referred to herein.

With new surroundings, and under better influences, by their industry and intelligence they can more readily make an honest living and grow up useful men instead of burdens upon society. It has been too often noticed by the board that boys who leave the school without proper homes, or some one to care for them, soon drift back to their old haunts amongst their former companions, and the teachings and examples of the school become lost upon them. We are happy to say, however, that a large percentage of the boys discharged from the school turn out well. They may be found in almost every occupation and employment in this city; in offices and stores as clerks, and in various other honorable occupations, none of them regretting the time spent in the school.

But few citizens of this District know much of the school. Many look upon it as a place of incarceration for vicious boys for whom there is no future. Few know of the kind and humane treatment they receive, and the care and attention given them, or how closely their morals are looked after by the officers in charge.

It is a continual source of regret that the citizens do not take a greater interest in this noble charity by seeing for themselves, and encouraging the workers therein by their presence. The school is open every day during proper hours to visitors, who will be warmly welcomed and gladly received and shown through the institution and its workings explained.

Should Congress also pay us a little more attention in this respect their hearts would be opened, and, having the power, they might loosen the purse strings more liberally for the benefit of the school.

As provided by law, the revenue derived during the year from all sources in the school has been covered into the Treasury to the credit of the United States and the District of Columbia in equal parts.

As stated by the treasurer in his annual report, which is herewith submitted, the amount so deposited was \$2,905.88.

During the first session of the Forty-ninth Congress \$15,000 was appropriated for a new family building and \$4,000 for a tank house. Plans for these respective buildings were prepared and proposals twice advertised for, but both appropriations being found inadequate a deficiency appropriation was found necessary, and an appropriation was asked for of \$8,408.70. Owing to the deficiency bill not becoming a law the appropriation of course was not available, and will be asked for again at the coming session of Congress, and it is earnestly hoped

that this small appropriation will be promptly made, that the work may be commenced and the buildings completed. We have greatly felt the want of more room. Almost daily applications to admit boys to the school have to be refused, and the courts notified that no more can be admitted.

The tank house is an imperative necessity. The school is inadequately supplied with water, and in case of fire there are no means of extinguishing it. The nearest fire engine is 4 miles away, and even should it reach the buildings it would be useless, on account of the small supply of water. A large amount of Government property, besides the buildings, is in danger at any time of being lost by fire for want of this proper supply of water. The small appropriation asked for will obviate all this danger. The additional greenhouses and workshops provided for by Congress at its last session are about completed, and will be a great advantage to the school, enabling us to more continuously employ the boys, and by the sale of their products add materially to the revenue.

Estimates for the ensuing fiscal year have been submitted for approval and transmission to Congress. They are as follows:

For buildings and grounds:

Two necessary out-buildings of brick, with proper drainage and ventilation	\$1,200
Addition to piggery	250
Necessary repairs to family buildings	1,000
Grading, draining, and improvement of school grounds and roads	1,000
Completing boiler-house, new boiler, removal of boilers thereto, necessary radiators, piping connections, and laying the same	4,000
In all	7,450

Estimates of appropriations for the current expenses have also been submitted, as follows:

For pay-roll:

Superintendent	\$1,500
Assistant superintendent	900
Teachers and assistant teachers	3,500
Matron of school	600
Three matrons of families, \$180 each	540
Superintendent of chair shop	660
Farmer	480
Engineer	396
Baker, cook, shoemaker, and tailor, \$300 each	1,200
Two dining-room servants, seamstress, chambermaid, and laundress, \$144 each	720
Florist	360
Watchmen, not to exceed five in number	1,140
Secretary and treasurer of the board	600
In all	12,596

For support of inmates, including groceries, flour and feed, meats, dry goods, leather and shoes, gas, fuel, hardware, tableware, furniture, farm implements, and seeds, harness and repairs to same, fertilizers, books, stationery, plumbing, painting and glazing, medicines, medical attendance, stock, fencing, and other necessary items, including compensation, not exceeding \$900 for additional labor or services, and for transportation and other necessary expenses incidental to securing suitable homes for discharged boys, not exceeding \$500, all in the discretion of the Commissioners, \$25,000.

These estimates are substantially the same as those for the last fiscal year.

The estimate for the pay-roll is slightly beyond the amount appropriated for the current fiscal year, being an increase of \$120 to the florist. A suitable person for this position can not be obtained for less than the appropriation asked for, viz, \$360 a year. This is made necessary because of the erection during the current fiscal year of the two additional greenhouses and the desire of the board to make the work remunerative. No other additions have been made in the estimates for current expenses, it being the desire of the board to keep the expenditures within the smallest limits possible.

The estimates for buildings and grounds are the lowest possible to accomplish what the board believes to be absolutely necessary to the welfare of the school.

The item of \$4 000 covers the completion of the boiler-house, begun during the current fiscal year, from which the new work-shop and greenhouses will be heated by steam conveyed through underground pipes. It is the desire of the board to properly finish this building and remove the boilers now used in the family buildings thereto, to purchase one new boiler, and connect these by properly insulated underground piping with the buildings.

In this manner all the buildings can be safely and more conveniently heated. The removal of the boilers, with their attendant fires, from the family buildings will give the greatest possible relief to all connected with the school.

The report of the treasurer is herewith submitted in detail, showing the expenditures made by him for the past fiscal year. They may be recapitulated as follows:

RECEIPTS.

Appropriation for salaries.....	\$11,616.00
Appropriation for expenses.....	25,000.00
Total receipts.....	<u>36,616.00</u>

DISBURSEMENTS.

Pay-roll.....	11,601.00
Groceries, salt meats, ice, etc.....	4,843.05
Flour and feed.....	2,429.93
Fresh meats, fish, etc.....	2,852.23
Dry goods, clothing, and hats.....	2,371.02
Leather, shoes, and shoe findings.....	549.33
Gas and fuel.....	3,195.43
Hardware, table-ware, kitchen-ware, etc.....	381.45
Seeds, fertilizers, harness, tools, wagons, and repairs to same, flowers, stock, etc.....	1,836.36
Books, stationery, printing, and box-making supplies.....	616.66
Medicine and medical attendance.....	851.73
Necessary sundry expenses.....	593.61
Purchase of farm stock.....	542.47
Furniture, machinery, and repairs to buildings, carpets, etc.....	2,984.34
Compensation account.....	898.84
Total.....	<u>36,547.45</u>
Total receipts.....	36,616.00
Total disbursements.....	<u>36,547.45</u>

Leaving a balance unexpended of..... 68.55

Your attention is respectfully invited to the report of the physician, Dr. Wells, herewith submitted. I deem it my duty to say that since the school was located on its present site Dr. Wells has been the attending physician, and by his skill and attention has kept the school in its most excellent sanitary condition. He is entitled to the thanks of the

board for his diligence and faithful discharge of his delicate and responsible duty.

A joint resolution, which passed the Senate during the last session of Congress, making the chief clerk of the Department of Justice *ex officio* a trustee of the school, failed to become a law. The joint resolution will be introduced again during the coming session, when it is hoped it will meet with a better fate.

It is the earnest desire of the trustees that the Department of Justice be so represented upon the board, thus bringing the Department and the school more directly in contact and personal relation, enabling the Department to be advised at all times of the condition of the school and its wants and interests. The passage of this joint resolution by Congress will be gratifying to the board. The present chief clerk of the Department of Justice is now one of our number, but we desire to by law make that officer *ex officio* a permanent member of the board.

Under existing laws, when a boy is now discharged the school authorities have no further control over him. Other institutions discharging their inmates do so on probation, with the right at any time to recall them when they are guilty of misconduct. We think the law in regard to our school should be amended to this end, and with your permission a bill to this effect will be introduced in Congress at its next session, to which we earnestly invite your attention, and ask your cooperation in having it become a law.

The superintendent and matron and the various assistants have discharged their duty with fidelity, looking always to the best interests of the boys under their charge. Their services meet with the unanimous approbation of the trustees.

Few changes have been made among the employés, and only such as were deemed necessary for the better discipline and welfare of the school.

Very respectfully,

A. J. FALLS,
President of the Board of Trustees.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

REFORM SCHOOL, DISTRICT OF COLUMBIA,
_____, 1887.

GENTLEMEN: I have the honor to present herewith my report for the fiscal year ending June 30, 1887:

Total number of boys received since opening	1,237
Total number of deaths since opening	9
Rate of mortality about $\frac{1}{4}$ of 1 per cent.	
Average age of boys received since opening	13
Number of boys in institution June 30, 1886	168
Number of boys received during year, as follows:	
From supreme court, District of Columbia	4
From police court, District of Columbia	45
From president of board of trustees	8
From voluntary return to school	2
	59
Total population for the year	227
Number received on first commitment	52
Number received on second commitment	7
Average age of boys received during year, twelve years and six months.	

Maximum number in school during year	169
Minimum number in school during year	144
Average number in school during year	157

Number of boys discharged during year, viz:

By order of board of trustees	67
By order of Department of Justice	1
By escape (not yet returned)	1
By death	2

71

Number remaining June 30, 1887	156
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Nativity of boys received during year, viz:

American	48
Irish	2
German	4
English	2
Scotch	2
Welsh	1

Total	59
-------------	----

Causes of commitment, viz:

Incorrigibility	28
Larceny	23
Vagrancy	8

Total	59
-------------	----

Religious training of boys before entering the school, viz:

Baptist	15
Catholic	10
Lutheran	1
Methodist	23
Presbyterian	5
Parents did not attend any religious service	5

Total	59
-------------	----

Educational grade when received, viz:

Number who did not know the alphabet	11
Number who knew the alphabet only	5
Number who could spell words of one syllable	7
Number who could read primary lessons	9
Number who could read well	27

Total	59
-------------	----

Number who could not write	14
Number who could write imperfectly	23
Number who could write legibly	8
Number who could write well	14

Total	59
-------------	----

Number who had never studied arithmetic	38
Number who had advanced to multiplication	7
Number who had advanced to long division	4
Number who had advanced to fractions	10

Total	59
-------------	----

FINANCIAL STATEMENT.

The superintendent has received from various sources, and turned the same over to Samuel W. Curriden, treasurer of the school, who has

covered the same into the United States Treasury for the benefit of the United States and the District of Columbia, jointly, as follows, viz:

Cash received from chair-shop account.....	\$1,529.81
Cash received from sales of farm products.....	671.60
Cash received from Department of Justice	259.92
Cash received from miscellaneous sources	444.55
Total	2,905.88

The school year has again closed without any marked changes in its official work. The larger part of this work is necessarily monotonous. The boys try to vary the routine as much as possible, without materially interfering with the prescribed rules and regulations. All departments of the school are under the same uniform government. It is the aim and purpose of the superintendent, under the direction of the board of trustees, to administer this government with as few restraints as possible to secure a wholesome discipline.

It is not expected that our boys will easily and readily attain to a high standard of excellence in deportment and scholarship, as many of them enter the school with the record of an idle and aimless life, having profited but little from home and family influence, if, indeed, they have been favored with even the semblance of such harmonizing associations. Obedience might be enforced at once upon even the most wayward and refractory boy, but experience teaches that this is not the BEST means of securing it. It is always safe to go slow, using "precept upon precept, here a little and there a little," in dealing with the follies and vagaries of youth. Obedience secured by force seldom accomplishes the object in view, and final reformation must come, if at all, after patient waiting and by securing a *willing* rather than an *enforced* submission. We depend both upon the play-ground and the dining-room to furnish valuable aid in the management of our boys. To the former they are sent daily, with permission to indulge in rational sports and games selected by themselves, and such as they seem to enjoy the most. They are not only *permitted* to play, but assisted and encouraged to make the most of the shorter hours allowed them for this purpose, upon the same principle that we direct and control the longer hours they are required to spend at work and in the school-room.

So, also, we look to the dining-room for helpful and persuasive influence. By indulging the appetite with a liberal supply of wholesome food, catering to the *inner* boy, however refractory or incorrigible his disposition, he soon becomes better satisfied with himself and his surroundings, and ready to accept any reasonable duty that may be imposed. It will be understood, of course, that these are merely the subordinate means, and preparatory only to other and more elevating expedients resorted to in the ever-changing and often perplexing routine of duties inseparable from our peculiar work.

The schools have been in regular session through the fall and winter months. The boys in each family are divided into two separate classes or grades, and are required to spend from three and a half to four hours daily in study and recitation. Competent teachers are employed, two in each family, and boys receive instruction in the ordinary English branches taught in the District common schools. This includes a daily recitation in reading, writing, arithmetic, algebra, geography, and history.

Our school industries have been prosecuted with the usual activity throughout the year. To give a detailed account of them would be virtually a repetition of our annual report for the past number of years. Enough to say here, that we may claim for the present a standard equal to the highest average in every department of the school.

We have been favored with an abundant harvest, and a bountiful supply of all crops, excepting fruit, which proved almost a failure.

In addition to the ordinary farm work, chair-caning, paper-box making, and all necessary tailoring, laundering, kitchen, and other domestic labor performed by the boys, there has been a large amount of additional labor expended in the keeping and for the permanent improvement of our school-grounds. While much of this labor brings no moneyed income it is none the less valuable, as it saves a large and direct expenditure for work necessary to the proper management of the school.

The general health of the school has been good, and there have been no prolonged cases of ordinary sickness or epidemic of any kind. Two deaths have occurred, one the result of a serious accident. Previous to this there had been no deaths for three consecutive years. Special attention has been given, under the direction of the attending physician, Dr. Charles A. Wells, to the sanitary condition of the school buildings and grounds. Disinfectants have been freely used, especially during the summer months, both in and outside of the building, while the sewerage and surface drainage have been kept as nearly perfect as possible. Dr. Wells's attention to patients requiring medical treatment has been unremitting, and his attendance always prompt when summoned in special cases.

The legal holidays were all duly and appropriately observed, Christmas and Fourth of July being special favorites with the boys. Both are positive as to the kind and character of the memories they awaken, and though separated by centuries of time are welcomed as twin birthdays of the highest order in our religious and national life. They seem also by some fortunate accident to divide the year into halves, and, for a pleasing variety, bring to us the extremes of winter and summer in the changing seasons. On these occasions all work is suspended, the buildings neatly decorated with bunting or evergreens, as the day may suggest, while the boys are made happy over a bountiful supply of the many good things provided for their personal comfort and enjoyment.

It has become almost a tradition in the school to provide an "annual entertainment" at the time of the regular meeting of the board of trustees in the month of January. It was given the present year on the evening of the 25th, and, as usual, the entire programme was carried through by a select number of boys chosen from amongst those who had best qualified themselves for the parts assigned them. All good friends of the school are invited to these entertainments, and the presence of the board of trustees with their invited guests is not only encouraging and complimentary to the boys, but gratifying to the teachers and officers of the school, who have patiently assisted them in their efforts to insure success.

Religious services have been held regularly every Sabbath afternoon at 3 o'clock. These services, as usual, have been conducted by ministers and others who reside in the neighborhood. They are in no sense sectarian in character, and all are invited to be present and join us in these exercises. The music, vocal and instrumental, is under the immediate direction of Mr. W. K. Cohen, of the city, who is also employed as a teacher of vocal music in the school, spending an evening weekly with the boys for instruction and practice. A Catholic service is also held every Sabbath evening for the benefit of boys who have been reared in the tenets of that faith before entering the school. The Rev. Father Caughy, of Laurel, Md., is present to conduct these services once every month.

The school has been officially visited during the year by a number of the higher authorities, including three members of the United

States Senate and House of Representatives, heads of departments of the United States Treasury, judges of the courts, and Commissioners of the District of Columbia, and once by the grand jury as a body. Many others, residents of the city and District, have manifested their interest in the school by frequent visits, and we have had the pleasure also of receiving and welcoming a number of ladies and gentlemen officially connected with reformatory work from foreign countries.

We have received at various times during the year, from thoughtful friends of our boys, a number of illustrated magazines, select weekly newspapers, and other miscellaneous reading matter; also a monthly contribution of similar periodicals, pictures, cards, etc., from the dead-letter department of the General Post-Office. In behalf of these boys, who always welcome these donations made in their interest, I desire to express my thanks and request even an enlarged contribution of these valued favors, with an urgent invitation to other friends to "go and do likewise."

To all who have cheerfully and acceptably conducted our religious services—both ministers of the gospel and others—the school is under lasting obligations, and I take special pleasure in giving expression to them here.

Few changes have been made in our official force during the year, and but little has occurred to interrupt the harmony and concerted action of all employed under your authority. I may, therefore, justly express my thankfulness to those who have been thus intimately associated with me, and who have so efficiently assisted in all that has proved successful in the work for which I am held responsible.

To you, gentlemen of the board of trustees, I am under many obligations for your continued confidence and official aid in all my efforts to execute your purposes in the management of the institution.

Under the divine blessing the school has passed another prosperous year. To the Divine Giver be all the praise.

Respectfully submitted.

The BOARD OF TRUSTEES.

G. A. SHALLENBERGER,
Superintendent.

Report of the Treasurer.

REFORM SCHOOL OF THE DISTRICT OF COLUMBIA,
Washington, October 13, 1887.

GENTLEMEN: I have the honor to submit herewith my report as treasurer of the Reform School for the fiscal year ended 30th June last:

Received from appropriation for current expenses, pay-roll, etc.....	\$36,616.00
Expended as per statement of disbursements appended.....	36,547.45
Leaving a balance of.....	68.55
Received from appropriation for family building and tank-house.....	5,500.00
Expended as per statement of disbursements appended.....	145.64
Leaving a balance of.....	5,354.36

I have also received from the superintendent of the school during the year, being revenue derived from the labor of inmates, the sum of \$2,905.88. In accordance with the act of Congress approved February 25, 1885, I have paid the same into the Treasury of the United States to the credit of the United States and the District of Columbia in equal parts.

Very respectfully and truly yours,

The BOARD OF TRUSTEES.

SAMUEL W. CURRIDEN,
Treasurer.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 419

Statement of disbursements, current expenses of the Reform School, District of Columbia, fiscal year ended June 30, 1887.

Month.	Name.	For what expended.	Amount.
1886.			
July	Philip Nicholas	Pay-roll, July	\$918. 00
	Samuel Clark	Compensation, July	25. 00
	Louisa Johnson	do	15. 00
	David Gantt	do	7. 50
	James Warner	do	10. 00
	Stanley Taylor	do	10. 00
	John Isaac	do	10. 00
	G. A. Shallenberger, superintendent	do	7. 50
	Hume, Cleary & Co	Sundries	17. 18
	Browning & Middleton	Groceries	107. 63
	Geo. M. Oyster & Co	do	205. 02
	Independent Ice Company	Butter	41. 31
	Wm. H. Galt & Co	Ice	35. 72
	J. T. Varnell & Son	Flour	192. 65
	Wm. R. Riley	Meat	258. 92
	H. Adler, agent	Dry goods	10. 68
	Woodward & Lothrop	do	27. 12
	Hood, Bonbright & Co	do	6. 80
	Robert Cohen	do	40. 88
	W. L. King & Bro	Shoes	27. 80
	John P. Agnew & Co	Leather, etc	11. 87
	Washington Gas-Light Company	Coal	32. 50
	M. W. Beveridge	Gas, July	26. 10
	Geo. Watts	Table ware	13. 45
	J. M. Lauxman	do	7. 38
	John McDermott & Bro	Blacksmithing	9. 55
	Washington Brick Machine Company	Repairing buggy	16. 25
	C. W. Brown	Manure	30. 00
	Tschiffely & Evans	Printing	12. 00
	Thos. W. Smith	Medicine	9. 75
	F. P. May & Co	Lumber	48. 58
	G. N. Holland	Nails	5. 75
	Ward & Cunningham	Lime	10. 50
	Geo. Ryneal, jr	Gas fixtures	6. 50
August		Oil, etc	5. 93
	G. A. Shallenberger, superintendent	Pay-roll, August	923. 00
	Philip Nicholas	Sundries	25. 87
	Samuel Clark	Compensation, August	25. 00
	Louisa Johnson	do	15. 00
	Andrew Barbour	do	7. 50
	Browning & Middleton	Repairing steps	22. 50
	Hume, Cleary & Co	Groceries	124. 80
	Geo. M. Oyster & Co	do	142. 34
	Independent Ice Company	Butter	46. 63
	Wm. M. Galt & Co	Ice	36. 48
	Armour & Co	Flour	203. 05
	Wm. R. Riley	Meat	211. 13
	Woodward & Lothrop	Dry goods	3. 30
	H. Adler, agent	do	23. 18
	C. W. Thorn & Co	do	12. 07
	C. H. Garden & Co	do	5. 89
	Eiseman Bros	Hats	16. 28
	Washington Gas-Light Company	Clothing	16. 00
	J. P. Agnew & Co	Gas	30. 30
	M. W. Beveridge	Coal	26. 00
	L. H. Schneider & Son	Table ware	18. 49
	F. P. May & Co	Hardware	10. 06
	K. Kneesi & Son	do	11. 80
	J. M. Lauxman	Harness	5. 00
	E. Morrison	Blacksmithing	16. 60
	Wm. H. Morrison	Stationery	6. 68
	C. A. Wells	do	7. 15
	Tschiffely & Evans	Medical service	69. 00
	Olcott & Co	Medicine	13. 74
	Thos. W. Smith	Carriage hire	8. 00
	Saml. S. Shedd	Lumber	18. 63
	R. Harris & Co	Gas fixtures	4. 40
	Geo. Ryneal, jr	Clock	4. 00
	Geo. N. Holland	Glass, etc	17. 30
	T. C. Basshor & Co	Lime	7. 00
	Stanley Taylor	Steam-cooking appliances	29. 10
	A. M. Winn	Building fence	6. 25
September		Compensation	16. 66
	Philip Nicholas	Pay-roll, September	898. 00
	R. Cohen	Compensation, September	25. 00
	Louisa Johnson	do	25. 00
	Samuel Clark	do	7. 50
		do	11. 25

420 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1886. September	G. A. Shallenberger, superintendent.....	Sundries.....	\$12. 05
	S. W. Curriden.....	Services.....	150. 00
	John P. Agnew & Co.....	Coal.....	1, 223. 22
	Browning & Middleton.....	Groceries.....	197. 11
	Hume, Cleary & Co.....	do.....	133. 02
	Independent Ice Company.....	Ice.....	31. 16
	G. M. Oyster & Co.....	Butter.....	60. 46
	Wm. M. Galt & Co.....	Flour.....	198. 05
	Armour & Co.....	Meat.....	270. 66
	Woodward & Lothrop.....	Dry goods.....	290. 31
	Wm. R. Riley.....	do.....	158. 06
	Eiseman Bros.....	Clothing.....	14. 50
	H. Adler, agent.....	Hose, etc.....	11. 82
	Robert Cohen.....	Shoes.....	63. 95
	Washington Gas-Light Company.....	Gas.....	43. 35
	L. H. Schneider & Son.....	Shovels, etc.....	15. 15
	F. P. May & Co.....	Hardware.....	4. 53
	M. W. Beveridge.....	House ware, etc.....	11. 66
	R. Goldschmid.....	Fruit cans.....	2. 75
	John A. Baker.....	Seeds, etc.....	15. 11
	Columbia Railway Company.....	Manure.....	109. 20
	Washington Brick Machine Company.....	do.....	60. 00
	J. M. Lauxman.....	Blacksmithing.....	25. 65
	J. D. Free, jr.....	Stationery, etc.....	19. 07
	Chas. Beck.....	do.....	4. 27
	Wm. H. Morrison.....	do.....	4. 75
	Tschiffely & Evans.....	Medicines.....	8. 25
	Olcott & Co.....	Carriage hire.....	9. 00
	National Republican Company.....	Advertising.....	8. 51
	W. B. Williams.....	Furniture.....	110. 02
	T. W. Smith.....	Lumber.....	8. 45
	N. Anderson.....	Repairs.....	67. 50
	Geo. Ryneal, jr.....	Paint, etc.....	8. 70
	Geo. Y. Hansell.....	Papering.....	14. 00
	Thomas Somerville & Sons.....	Pipe.....	14. 56
	T. C. Basshor & Co.....	Steam injector.....	15. 75
October....		Pay-roll, October.....	923. 00
	Philip Nicholas.....	Compensation, October.....	2. 00
	Louisa Johnson.....	do.....	7. 50
	Samuel Clark.....	do.....	15. 00
	Wm. K. Cohen.....	do.....	25. 00
	G. A. Shallenberger, superintendent.....	Sundries, October.....	31. 73
	Hume, Cleary & Co.....	Groceries.....	89. 88
	Browning & Middleton.....	do.....	98. 19
	Beall & Baker.....	do.....	29. 29
	G. M. Oyster & Co.....	Butter.....	94. 36
	Independent Ice Company.....	Ice.....	26. 60
	Wm. M. Galt & Co.....	Flour, etc.....	205. 80
	B. R. Scannell.....	Meat.....	207. 78
	Edward Fick.....	Oysters.....	14. 25
	Tschiffely & Evans.....	Medicines.....	14. 15
	Chas. A. Wells.....	Medical services.....	66. 00
	Woodward & Lothrop.....	Dry goods.....	20. 03
	Wm. R. Riley.....	do.....	98. 13
	Lansburgh & Bro.....	do.....	12. 83
	C. W. Thorn & Co.....	do.....	6. 90
	Eiseman Bros.....	do.....	39. 75
	Wm. H. Thompson.....	Clothing.....	29. 36
	H. Adler, agent.....	Yarn.....	30. 99
	Auerbach & Bro.....	Hose.....	5. 13
	R. Cohen.....	Hats.....	52. 45
	Washington Gas-Light Company.....	Shoes.....	45. 00
	M. W. Beveridge.....	Gas, October.....	5. 25
	E. Morrison.....	Table ware, etc.....	5. 98
	Wm. H. Morrison.....	Stationery.....	20. 37
	Wm. Ballantyne & Son.....	do.....	9. 20
	T. B. Cross, jr.....	Books, etc.....	97. 68
	N. Anderson.....	Fencing.....	39. 00
	F. P. May & Co.....	Carpentering.....	10. 50
	K. Kneesi & Son.....	Hardware.....	41. 50
	Wm. H. Harrover.....	Harness.....	10. 25
	Wm. H. Ernest.....	Stone, etc.....	9. 50
	C. N. Gray & Co.....	Flower pots.....	32. 69
	Geo. N. Holland.....	Grate bars.....	21. 70
	H. L. Cranford.....	Lime and cement.....	205. 30
	Geo. Ryneal, jr.....	Paving kitchen, etc.....	13. 84
	D. W. Beveridge & Co.....	Glass, etc.....	29. 25
	John P. Agnew & Co.....	Window screens.....	870. 18
		Coal.....	923. 00
		Pay-roll, November.....	
November			

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 421

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1886.			
November	Philip Nicholas	Compensation, November ..	\$25. 00
	Wm. Cohen	do	25. 00
	Samuel Clark	do	15. 00
	Louisa Johnson	do	7. 50
	G. A. Shallenberger, superintendent	Sundries, November	11. 41
	C. W. Brown	Printing	26. 75
December	Wm. M. Galt & Co	Flour	198. 05
	Browning & Middleton	Groceries	139. 69
	Hume, Cleary & Co	do	94. 69
	B. R. Scannell	Meat	181. 49
	N. White & Co	Oysters	10. 50
	G. M. Oyster & Co	Butter	102. 30
	Beall & Baker	Groceries	42. 46
	Tschiffely & Evans	Medicines	19. 35
	Woodward & Lothrop	Dry goods	28. 59
	Lewis Baar, agent	Sewing machines	64. 75
	C. W. Thorn & Co	Dry goods	15. 09
	Eiseman Bros	Clothing	36. 00
	Wm. R. Riley	Cotton	5. 35
	H. Adler, agent	Dry goods	25. 54
	Wm. Ballantyne & Son	Stationery	5. 47
	R. Cohen	Shoes	37. 50
	Wm. H. Harrover	Stone	6. 50
	F. P. May & Co	Hardware	10. 49
	L. H. Schneider & Son	do	9. 46
	M. W. Beveridge	Table ware	9. 84
	Thos. Somerville & Son	Piping	10. 96
	Geo. Ryneal, jr	Glass, etc	26. 71
	Geo. N. Holland	Lime, etc	7. 70
	Wm. H. Morrison	School books	5. 11
	J. M. Lauxman	Blacksmithing	14. 80
		Pay-roll, December	908. 00
	S. W. Curriden	Services	150. 00
1887.			
January	Thos. C. Jenkins	Groceries	19. 50
	C. H. Garden & Co	Caps	60. 48
	Washington Gas-Light Company	Gas	71. 00
	Philip Nicholas	Compensation, December ..	25. 00
	Wm. K. Cohen	do	25. 00
	Geo. Greer	do	15. 00
	Louisa Johnson	do	7. 50
	C. Denekas	Yeast	21. 04
	Geo. J. Mueller	Sundries	18. 62
	N. White & Co	Oysters	13. 51
	R. Cohen	Shoes	31. 70
	W. L. King & Bro	Shoe findings	11. 53
	M. W. Beveridge	Table ware	16. 02
	Chas. A. Wells	Medical services	110. 00
	Tschiffely & Evans	Medicine	10. 43
	Lansburgh & Bro	Dry goods	14. 15
	W. R. Riley	do	37. 15
	C. W. Thorn & Co	Sundries	10. 23
	H. Adler, agent	do	14. 60
	Eiseman Bros	Clothing	39. 00
	Saks & Co	do	29. 38
	Auerbach & Bro	Hats	8. 15
	Washington Gas-Light Company	Gas	74. 38
	Wm. H. Morrison	School books	4. 83
	Wm. Ballantyne & Son	do	7. 30
	E. Morrison	Stationery	5. 03
	G. A. Shallenberger, superintendent	Sundries	24. 24
	B. P. Murray	Entertainment	10. 00
	Olcott & Co	Carriage hire	20. 00
	Geo. P. Zurhorst	Undertaking	25. 00
	W. B. Williams	Mattresses, etc	42. 30
	F. P. May & Co	Hardware	7. 02
	Thos. Somerville & Son	Grates	13. 75
	L. H. Schneider's Son	Hardware	3. 60
	Sam'l S. Shedd	Gas fixtures	2. 50
	B. F. Guy & Co	Tinning	2. 85
	Wm. E. Wood & Co	New grates	7. 75
	Ward & Cunningham	Plumbing	10. 98
	Thos. W. Smith	Lumber	21. 30
	Geo. Ryneal, jr	Oil, etc	6. 40
	Wm. M. Galt & Co	Flour, etc	208. 08
	Browning & Middleton	Groceries	106. 16
	Hume, Cleary & Co	do	212. 86
	G. M. Oyster & Co	Butter	76. 63
	B. R. Scannell	Meat	222. 33

422 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1887.			
January ...	Evening Star Company.....	Advertising	\$13.30
	John P. Agnew & Co.....	Coal	143.00
	Washington Brick Machine Company.....	Manure	91.20
	W. B. Moses & Son.....	Furniture, etc	93.96
	Freeborn W. Smith.....	Organ and stool	95.00
	Woodward & Lothrop.....	Dry goods	94.73
	Independent Ice Company	Ice	38.00
	J. H. Lauxman	Blacksmithing	9.67
		Pay-roll, January.....	923.00
		Compensation, January.....	25.00
	Philip Nicholas	do	25.00
	W. K. Cohen	do	7.50
	Louisa Johnson	Railroad fare, boys.....	14.20
	G. A. Shallenberger, superintendent.....	Hauling ice.....	14.00
	Chas. H. Rialls	do	13.00
February ..	E. P. Godman	Groceries.....	159.84
	Browning & Middleton.....	do	162.06
	Hume, Cleary & Co	Flour.....	199.30
	Wm. M. Galt & Co	Meat	232.38
	B. R. Scannell	Groceries.....	5.34
	Beall & Baker	Butter, etc.....	70.64
	G. M. Oyster & Co	Oysters.....	18.00
	N. White & Co	Medicines.....	25.30
	Tschiffely & Evans	Dry goods	21.50
	Lansburgh & Brother.....	do	18.90
	Woodward & Lothrop.....	do	53.47
	W. R. Riley	do	17.30
	C. W. Thorn & Co	Hats.....	5.00
	Auerbach & Brother.....	Clothing.....	31.75
	Eiseman Brothers.....	do	36.50
	Saks & Co	Shoes.....	10.45
	Robert Cohen	Gas.....	90.75
	Washington Gas-Light Company.....	Books	9.25
	Wm. Ballantyne & Son.....	Printing.....	8.00
	C. W. Brown	Seed	9.33
	John A. Baker	Harness.....	5.85
	K. Kneesi & Son	Manure.....	109.20
	Columbia Railway Company	Blacksmithing.....	6.30
	J. M. Lauxman	do	35.75
	O'Neill Brothers.....	Conveyances	28.00
	Olcott & Co	do	10.00
	G. W. Knox	Wands	3.45
	J. Bradley Adams.....	Clothing.....	6.50
	Lloyd Moxley.....	Stationery	9.05
	E. Morrison	Wrench	3.20
	R. Leitch & Son.....	Castings.....	3.70
	J. L. Mott Iron Works.....	Stone, etc.....	8.50
	W. H. Harrover	Tableware, etc.....	13.49
	M. W. Beveridge	Hardware	8.70
	F. P. May & Co	do	15.13
	L. H. Schneider's Son	Service	2.50
	Chesapeake and Potomac Telephone Company.....	Lettering door	3.60
	Thos. A. Brown	Live stock.....	75.00
	L. Pifferling	Hot-water boiler.....	70.00
	Ward & Cunningham	Hardware	9.81
	Thos. Somerville & Son.....	Lumber	19.79
	T. W. Smith	Oil, paints, etc	8.60
	Geo. Ryneal, jr	Sundries.....	16.75
	G. A. Shallenberger, superintendent	Pay-roll, February.....	923.00
		Compensation, February.....	25.00
	Philip Nicholas	do	25.00
	Wm. K. Cohen	do	7.50
	Louisa Johnson	do	31.66
March	James Brady	Services, nurse	96.39
	Hume, Cleary & Co	Groceries.....	132.53
	Browning & Middleton.....	do	71.73
	Beall & Baker	do	77.41
	Geo. M. Oyster & Co	Butter.....	183.24
	B. R. Scannell	Meat, etc	12.00
	N. White & Co	Oysters	21.12
	Tschiffely & Evans	Medicine	65.50
	Washington Gas-Light Company.....	Gas.....	199.30
	Wm. M. Galt & Co	Flour.....	7.49
	Lansburgh & Brother.....	Dry goods.....	102.60
	Woodward & Lothrop.....	do	17.92
	C. W. Thorn & Co	do	21.25
	Eiseman Brothers.....	Clothing.....	18.37
	Wm. Ballantyne & Son.....	Stationery	5.00
	Wm. H. Boyd	City Directory.....	10.79
	W. L. King & Brother.....	Leather, etc	

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1887.			
March	R. Cohen	Shoes	\$12. 95
	C. A. Wells, M. D.	Services	112. 00
	J. M. Lauxman	Blacksmithing	3. 95
	Thos. C. Basshor & Co.	Grates	7. 30
	Olcott & Co	Carriage hire	5. 00
	Wm. H. Ernest	Flower-pots	14. 25
	Washington Brick Machine Company	Manure	59. 60
	George Ryneal, jr.	Putty, oil, etc	8. 03
	John McDermott & Brother	Repairs to carriage	8. 00
	G. A. Shallenberger, superintendent	Sundries	8. 85
		Pay-roll, March	908. 00
	Wm. K. Cohen	Compensation, March	25. 00
	Philip Nicholas	do	25. 00
	Geo. Greer	do	15. 00
	Louisa Johnson	do	7. 50
	Wm. M. Galt & Co	Flour	204. 30
	B. R. Scannell	Meat	235. 37
	N. White & Co	Oysters	10. 05
	Browning & Middleton	Groceries	215. 49
	Hume, Cleary & Co	do	132. 87
	G. M. Oyster & Co	Butter	71. 36
	Tschiffely & Evans	Medicine	27. 70
	John P. Agnew & Co	Coal	92. 10
	Washington Gas-Light Company	Gas	54. 50
	Woodward & Lothrop	Dry goods	16. 95
	Wm. R. Riley	do	36. 25
	Lansburgh & Brother	do	10. 35
	C. W. Thorn & Co	do	17. 04
	Eiseman Brothers	Clothing	22. 50
	Auerbach & Brother	Hats	6. 63
	Robert Cohen	Shoes	26. 35
	H. L. King & Bro	Leather	19. 51
	J. D. Free, jr	School books, etc	50. 20
	Wm. Ballantyne & Son	do	34. 58
	Columbia Railway Company	Manure	72. 80
	J. M. Lauxman	Blacksmithing	5. 70
	Johnson & Stokes	Seed	42. 67
	Geo. Watts	Kitchen ware	5. 06
	M. W. Beveridge	do	27. 35
	W. B. Williams	Carpet, etc	64. 15
	F. P. May & Co	Hardware	9. 16
	R. Leitch & Son	Castings	19. 70
	George Ryneal, jr	Paint, etc	18. 98
	Geo. N. Holland	Lime, etc	8. 05
	S. W. Curriden	Services, three months	150. 00
April	J. E. Berry	Carriage hire	12. 00
	Washington Post	Advertising	8. 25
	G. A. Shallenberger, superintendent	Sundries	10. 66
	Thos. W. Smith	Lumber	40. 90
	N. Anderson	Repairs	164. 21
	Wm. H. Ernest	Flower-pots	13. 50
	James Brady	Services, nurse	25. 00
	D. W. Magrath	One bay horse	200. 00
	Chesapeake and Potomac Telephone Company	Service	15. 00
May		Pay-roll, April	923. 00
	W. K. Cohen	Compensation	25. 00
	Philip Nicholas	do	25. 00
	Louisa Johnson	do	7. 50
	G. A. Shallenberger, superintendent	Sundries	18. 26
	Browning & Middleton	Groceries	159. 23
	Hume, Cleary & Co	do	93. 41
	John P. Agnew & Co	Coal	155. 30
	Columbia Railroad Company	Manure	72. 80
	C. A. Wells	Medical services	112. 00
	Wm. M. Galt & Co	Flour	209. 90
	B. R. Scannell	Meat	18. 75
	Robert Cohen	Shoes	47. 65
	M. Lauxman	Blacksmithing	33. 55
	R. A. Golden	Fish, etc	23. 40
	J. E. Berry	Carriage hire	24. 00
	Eiseman Brothers	Clothing	26. 51
	James Brady	Medical attendance	25. 00
	O'Neill Brothers	Blacksmithing	19. 50
	W. L. King & Brother	Shoe-leather, etc	11. 33
	Wm. E. Wood & Co	Stoves	7. 25
	John A. Baker	Seed, etc	120. 73
	Thos. T. Keane	Meat	236. 96
	Thos. W. Smith	Lumber	50. 34
	Lansburgh & Brother	Dry goods	6. 57

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1887.			
May	Washington Gas-Light Company	Gas	\$38.00
	W. B. Moses & Son	Carpet	24.24
	L. H. Schneider's Son	Hardware	37.67
	Geo. N. Holland	Lime, etc	6.10
	Wm. Ballantyne & Son	Books	17.40
	Tschiffely & Evans	Medicine	21.43
	Beall & Baker	Groceries	43.35
	Woodward & Lothrop	Dry goods	112.58
	Geo. M. Oyster & Co.	Butter	91.48
	C. W. Thorn & Co	Dry goods	15.76
	Geo. Ryneal, jr	Paint, etc	22.65
		Pay-roll, May	923.00
	L. Johnson	Compensation	7.50
	W. K. Cohen	do	25.00
	Philip Nicholas	do	25.00
June	Daniel Johnson	Whitewashing	8.33
	Wm. Beckett	Compensation	6.60
	G. A. Shallenberger, superintendent ..	Sundries	13.20
	James Brady	Medical attendance	25.00
	James Brady	Compensation	12.50
	J. P. Agnew & Co	Coal	32.50
	N. White & Co	Oysters	3.13
	Eiseman Bros	Clothing	9.50
	Washington Gas-Light Company	Gas	29.00
	Tschiffely & Evans	Medicine	17.90
	C. W. Thorn & Co	Dry goods	27.41
	F. P. May & Co	Hardware	8.75
	M. Lauxman	Blacksmithing	9.90
	Robert Cohen	Shoes	17.15
	J. R. P. Carpenter	Repairs	26.25
	M. W. Beveridge	Tableware	28.03
	R. A. Golden	Fish	15.09
	W. B. Williams	Carpet	162.87
	E. N. Gray & Co	Castings	10.75
	N. Anderson	Carpentering	97.50
	M. Goldsmith	Clock	8.55
	L. H. Schneider's Son	Hardware	26.16
	S. S. Shedd & Bro	Gas fixtures	22.25
	Geo. Ryneal, jr	Paint, etc	15.17
	Geo. Watts	Tableware	16.52
	John A. Baker	Seed, etc	21.00
	Geo. Y. Hansell	Papering, etc	31.00
	Chas. Fischer	Hospital bed	32.85
	Lansburgh & Bro	Dry goods	40.69
	C. H. Garden & Co	Hats	21.84
	J. D. Milans	Printing	8.65
	W. L. King & Bro	Shoe findings	9.30
	Beall & Baker	Groceries	65.96
	B. R. Scannell	Meat	30.00
	Woodward & Lothrop	Dry goods	80.30
	Hume, Cleary & Co	Groceries	110.88
	Browning & Middleton	do	74.55
	Wm. R. Riley	Dry goods	160.74
	Wm. M. Galt & Co	Flour, etc	207.00
	Washington Brick Machine Company ..	Manure	68.00
	Thos. T. Keane	Meat	247.65
	Geo. M. Oyster & Co	Butter	117.10
	Edwards & Castle	Leather, etc	101.45
	J. E. Berry	Carriage hire	20.00
		Pay-roll, June	908.00
	Geo. Greer	Compensation	15.00
	Philip Nicholas	do	25.00
	Louisa Johnson	do	7.50
	Wm. K. Cohen	do	25.00
	James Brady	do	9.00
	Wm. Beckett	do	24.50
	Daniel Johnson	do	27.50
	S. W. Curriden	do	150.00
	C. A. Wells	Services to June 30	58.00
	Wm. M. Galt & Co	Medical services	203.85
	Hume, Cleary & Co	Flour	182.83
	Browning & Middleton	Groceries	227.87
	Geo. M. Oyster & Co	do	88.54
	C. A. Denekas	Butter	20.24
	Woodward & Lothrop	Yeast	28.77
	C. W. Thorn & Co	Dry goods	42.73
	Saks & Co	do	34.00
	Eiseman Bros	Clothing	15.00
	John P. Agnew & Co	do	32.50
		Coal	32.50

Statement of disbursements, current expenses, etc.—Continued.

Month.	Name.	For what expended.	Amount.
1887.			
June	Washington Gas-Light Company.....	Gas.....	\$20. 25
	R. Cohen	Shoes.....	45. 60
	M. W. Beveridge	Houseware	29. 84
	K. Kneesi & Son	Harness	35. 00
	Columbia Railroad Company	Manure.....	72. 80
	Washington Brick Machine Company	do	66. 40
	Wm. Ballantyne & Son	Stationery	24. 62
	J. D. Free, jr	do	21. 29
	J. E. Berry	Carriage hire.....	20. 00
	Geo. P. Zurhurst	Undertaking	33. 00
	T. W. Smith	Lumber	30. 70
	Ward & Cunningham	Plumbing	77. 36
	S. S. Shedd & Bro	Fixtures.....	15. 00
	Geo. Ryneal, jr	Paint	24. 00
	G. A. Shallenberger	Sundries	18. 28
	G. A. Shallenberger	Expenses	41. 47
	Jas. K. Probey	One express wagon.....	165. 00
	Olcott & Co	Carriage hire	4. 00
	B. R. Scannell	Meat	182. 94
	Tschiffely & Evans	Medicine	9. 45
	W. Donally	Dental services	19. 50
	Auerbach & Bro	Hats	6. 77
	Baeder, Adamson & Co	Glue.....	4. 50
	W. H. Harrover	Houseware	4. 15
	Gibson Bros.....	Printing	3. 50
	W. B. Williams.....	Furniture.....	71. 83
	F. P. May & Co	Hardware	5. 33
	L. H. Schneider's Son	do	5. 22
	Geo. N. Holland	Lime	10. 30
	W. Gibbons & Co	Farm stock.....	26. 00
	Peter Henderson & Co	Plants	37. 50
	Craig & Bros.....	do	141. 00
	E. Morrison	Stationery	4. 92
	O'Neill Bros.....	Blacksmithing	6. 50
	Lewis Baar, agent	Sundries	6. 27
	John Dixon	Painting	22. 50
	John McDermott & Bro	Carriage repairs.....	122. 05
	N. Anderson	Repairs	43. 88
	Chesapeake and Potomac Telephone Company..	Rental	15. 00
	J. H. Wilkerson	Inspecting boilers	10. 00
	Bex & Heunsch	Wagon repairs.....	67. 75
	John A. Baker	Wagon	98. 10
	Thos. Somerville & Sons	Iron work	9. 11
	R. A. Golden	Fish	2. 70
	J. M. Lauxman	Blacksmithing	22. 00
	R. Leitch & Sons	Valve	2. 25
	Wm. H. Ernest	Flower pots.....	25. 50
	E. N. Gray & Co	Boiler for laundry	165. 00
	W. B. Moses & Son	Carpets.....	34. 20
	Wm. Rudolph.....	Paper-box stock	69. 60
	J. L. Ketterlinus	do	11. 03
	Wm. Rudolph.....	do	65. 66
	Wm. Rudolph.....	do	54. 10
	Chas. Beck	do	20. 50
	Wm. Rudolph.....	do	36. 78
	E. Burgdoff	Horse	200. 00
	Total.....		36, 547. 45

RECAPITULATION.

Received by appropriation from Congress:	
For current expenses, etc.....	\$25, 000. 00
For pay-roll	11, 616. 00
	<u>\$36, 616. 00</u>
Expended, for current expenses, pay-roll, etc., as per statement preceding.....	36, 547. 45
	<u>68. 55</u>
Leaving on hand to be covered back into the Treasury.....	

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Disbursements on account of construction of family building and tank house, Reform School, District of Columbia, during the fiscal year ended June 30, 1887.

Month.	Name.	For what expended.	Amount.
1886. October.	Judd & Detweiler.....	Printing specifications	\$17. 50
	National Republican Company.....	Advertising for proposals ..	7. 03
	Evening Star Company.....	do	8. 50
	The Washington Post.....	do	6. 75
	Judd & Detweiler.....	Printing specifications	22. 50
	National Republican Company.....	Advertising for proposals ..	10. 50
	Evening Star Company	do	14. 16
	Washington Post	do	10. 00
	Washington Critic.....	do	9. 50
	do.....	do	11. 34
	Judd & Detweiler.....	Printing specifications.....	16. 36
	Evening Star Company	Advertising	11. 50
	Total.....		145. 64

S. W. CURRIDEN,
Treasurer.

Report of the physician.

REFORM SCHOOL, D. C., June 30, 1887.

GENTLEMEN: I have to report that while the general health of the school has been fairly maintained, we have had during the year just ended two deaths. Clinton Bowles, colored, died December 7 of acute phthisis, and Bernard Johnson, colored, died May 29 from the effects of burns accidentally received January 1, 1887, one hundred and twenty-seven days before. During this long and trying period no patient at home or hospital could have received more assiduous and solicitous care. The sanitary regulations which have been in existence here in past years have been strictly enforced during the year just ended. Cleanliness in every place is insisted on, and the institution is always ready for inspection.

Very respectfully,

CHAS. A. WELLS, M. D.,
Attending Physician.

The Hon. BOARD OF TRUSTEES, REFORM SCHOOL, D. C.

C.—REPORT OF THE INDUSTRIAL HOME SCHOOL.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA:

The following is the report of the Industrial Home for the fiscal year closing June 30, 1887.

Very respectfully,

CHARLES E. FOSTER,
President.

Mrs. H. W. BLACKFORD,
Secretary.

REPORT.

The Industrial Home School is located on the east side of the Tenallytown road, about a mile above Georgetown, adjoining the new Observatory grounds.

It was incorporated March 12, 1872, under the act of May 5, 1870, providing for the creation of corporations in the District by general law.

The object of the institution is to provide a shelter for friendless and neglected children of both sexes between the ages of six and fifteen years, and to educate them in the elementary principles of handicraft in connection with ordinary mental studies.

The beneficiaries of the Home, upon leaving the institution, are provided with situations or returned to their friends.

The general control is exercised by a board of managers elected at the annual meeting of the association, which is held on the last Monday of October.

The board during the past year has been divided into committees, as follows: (1) On admission and placement; (2) on education; (3) on industries; (4) on ways and means; (5) on green-house and garden; (6) on housekeeping; (7) on accounts; (8) on buildings, grounds, and stock; (9) on employes.

Meetings of the board are held monthly at the residences of the different members, at which reports are received from the superintendent and matron, requisitions for supplies acted on, and the necessary business transacted.

Employés for the year ending June 30, 1887, and salaries.

W. S. Stockbridge, superintendent	\$1, 200
Joseph Simmons, carpenter	600
M. H. Lester, florist	360
Fillmore Donaldson, farmer	360
Emily P. Stockbridge, matron	300
Lois H. Nash, cottage matron	300
Patty H. Parker, housekeeper	300
M. M. Donovan, seamstress	240
Clara L. Danielson, nurse	180
Two laundry women, \$120 each	240
House-maid	120
Twelve employés at the home	4, 200
Clerk to treasurer	100
	4, 300

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A laborer has been employed a part of the year at a compensation of \$1 per day.
During the present fiscal year a cook will be employed and one of the laundry women dispensed with.

ROUTINE.

The following is the routine of the institution :

- Rising bell rings at 6 a. m. in summer and 6.30 a. m. in winter.
- Industrial classes from 8 to 12 a. m.
- School from 9 to 12 a. m.
- Dinner at 12.5.
- Industrial classes from 1 to 5 p. m.
- School from 1 to 4 p. m.
- Supper at 5 p. m.
- Children retire at 8 p. m. in winter, except the younger children who retire earlier

THE YEAR'S WORK.

Number of children cared for during the year ending June 30, 1887.....	130
Admitted during the year	48
Discharged	46
Of whom there were returned to friends	29
Provided with situations	12
Abseoded	5
Number in Home July 1, 1887.....	84
Monthly average	85
Officials and employes.....	13
Adult paupers maintained.....	2
Average family	100

The total cost of maintenance was \$10,169.
Cost per capita, obtained by dividing this amount by 87, the number of dependents, \$116.88.

There are included in the cost all salaries, except the carpenter's, and all ordinary repairs and furniture bought to replace broken or worn-out articles.

ADMISSION AND PLACEMENT.

Wards are admitted upon application of parents or guardians, on recommendation of any respectable citizen, or upon request of kindred associations, such as the Associated Charities, Grand Army of the Republic, Humane Society, Children's Aid Society, etc.

During the past year the Woman's Christian Home discontinued the work of providing for children, the managers deciding to pay attention to other branches of philanthropy, and at their request we accepted all the children under their charge not otherwise provided for.

In consequence of the discontinuance of the establishment under the care of these excellent ladies the demands upon our institution steadily increase, and there are now numerous meritorious applications on file that are suspended by reason of want of accommodation and because expenditures must be limited to appropriations, which for the last two sessions have been reduced, and as it is imprudent and unlawful to create any indebtedness, the committee are compelled from time to time to refuse admission to worthy necessitous applicants.

The experience of the past year proves that with the rapid growth of the city comes increased necessity for such an institution as ours, and that there ought to be accommodation for at least one hundred and fifty wards.

Those who fail to find shelter in our Home after applying for the same most frequently gravitate towards the dangerous pauper class, and from thence too frequently become criminals.

Thus there is presented to thoughtful minds whether it is better to provide a place for educating dependent minors to become moral, industrious, law-abiding members of the community, or to suffer them to run the almost certain chance of entering penal institutions.

The duty of society, and especially of those who legislate for the central point of the nation, from which the character and reputation of the American people is estimated would seem to be to guard against permanent pauperism and crime by a wise provision of means of support of eleemosynary institutions above the plane of the work-house and jail.

Before children are admitted to the Home strict inquiry is made into the circumstances, and each child is subjected to a careful examination by a physician to ascertain its bodily and mental condition.

The general good health of the inmates for the past few years is largely attributed to this salutary rule.

Besides investigation made by our officers and committees, we are under obligations for important work done in this direction by Mrs. K. B. Barlow, of the Children's Aid Society, and police officer Charles W. O'Neill, detailed as agent of the Humane Society, both of whom have been of great assistance to the board.

During the past year applications have been made for placing quite a number of children under our charge of weak and impaired intellect; this fact being attempted to be concealed by various artifices and misrepresentations. The attention of the managers having been called to this serious matter, by its direction a letter on the subject was addressed to the honorable Commissioners of the District, and a copy thereof sent to various institutions having dependent children in charge.

Thus far we are not advised of any action had on said communication, a copy of which is hereto attached.

Another serious evil has had to be contended with:

Applications are very often made for placing children in our Home, who, upon investigation, are found to be non-residents of the District, especially from the surrounding counties of Maryland and Virginia.

Such cases, when discovered, although every subterfuge is employed to conceal the fact, must of necessity be refused, for it is felt that we have no power or right to tax our citizens with such incumbrances.

Some regulations should be made by the police authorities under direction of the honorable Commissioners for the deportation of emigrants of this character who persistently insist that they have the inherent right to the bounty of the nation, unmindful of the fact that the citizens of the District in reality are taxed for the support of all local charitable institutions.

This is an evil growing every year, and if some effort is not made to check it our city will be made the resort of the dependent and delinquent class of the adjacent States, and its fair fame will suffer.

Already it has been attempted by some people to show that by comparison with other places Washington has an undue proportion of paupers and criminals, while a cursory examination of birthplaces and residences of the inmates of our penal and eleemosynary institutions will show that a very small number of them are native and to the manor born.

While it is true that charity should have no narrow distinctions, experience has demonstrated that gross injustice has been done to our

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good citizens by making this District the clearing place for many questionable persons from beyond its territorial limits.

Of those children provided with situations, two girls were placed in the Agricultural Bureau to learn to reel silk, three were placed at domestic service, and seven boys were placed with farmers. Of those returned to parents, quite a number were thus returned because friends had found employment for them.

GENERAL CONDITION OF PUPILS.

There has been no serious sickness among the children the past year. Their excellent health is due to the salubrity of the location and the good management of those in charge.

FOOD.

Plenty of good nutritious food is provided.

The following bill of fare for June serves as a sample:

Breakfast.—Bread and warm drink every day, with mush three times, oatmeal fifteen times, cheese once, butter four times, hominy six times, cerealine once.

Dinner.—Bread at each meal. Baked beans two times, molasses four times, hash six times, strawberries three times, boiled beef or mutton twenty-two times, cerealine two times, potatoes fifteen times, rice pudding once, onions ten times, raspberries twice, peas four times, berry-pie once, asparagus once, beets five times, string beans once.

Supper.—Bread at each meal. Chocolate four times, milk twenty-six times, cake three times, rice once.

RELIGIOUS TRAINING.

While the institution is strictly unsectarian, proper attention is paid to religious instruction. The children attend church, and a Sunday-school is maintained at which volunteers of different denominations, both Catholic and Protestant, assist. Grace is said at meals, and the children repeat the Lord's prayer before retiring.

EDUCATIONAL FEATURES.

There are two schools on the place, under the management of public school teachers of the District, Mr. and Mrs. John W. Douglass.

There are five established grades, with occasionally a few pupils who take sixth-grade work.

The curriculum and text-books are the same as in the other public schools of the District.

Pupils who show a special aptitude for drawing are aided and encouraged and specially instructed therein.

Two evenings in the week the children are assembled in the school-room and instructed in music.

Whole number of pupils on roll the past year.....	111
Average number of pupils on roll the past year.....	81
Average number of pupils in daily attendance.....	80
Percentage of attendance.....	99 $\frac{1}{10}$
Number of visits of supervising principal.....	8
Average age of pupils (years).....	10 $\frac{1}{2}$

The kitchen and kindergarten features have been permanently incorporated into the school work, and have been regularly practiced the past year.

The "kitchen garden" is similar in idea to the kindergarten.

The instruction is given by means of toys, illustrating domestic operations, and the children are directed in their play with these toys, so that they learn many household duties and come to associate household work with pleasure and enjoyment.

The lessons, which are accompanied with songs and music on the piano, embrace fire-kindling, waiting on the door, setting and clearing the table, house cleaning, making beds, sweeping, laundry-work, and so on, through the different occupations pertaining to housekeeping. It has been found to be a valuable aid in inspiring an early love for domestic work and training the youngest in habits of order and neatness.

VACATION SCHOOLS.

A school was kept up for nine weeks during the summer vacation of the public schools for the younger pupils, the board of managers having authorized the employment of a teacher at a salary of \$5 per week. Miss Kate Proctor was the teacher employed.

Many of the children being too small to work, it is desirable to have some one take charge of them during the absence of the public school teachers, instruct, and keep them out of mischief.

INDUSTRIES.

The pupils, with the exception of the younger ones, attend school only half a day, being engaged the other half in such industrial occupation as means have been provided for and as their ages admit.

CARPENTERING.

Instruction in the use of wood-working tools is of more practical importance than any other one branch of industry excepting farm-work.

The skilled carpenter can find employment in any city or town at remunerative wages, and knowledge of the use of the hammer, saw, chisel, and plane is useful in any trade or calling in life.

Classes in carpentering have been systematically taught through the year. Fourteen boys of from 12 to 16 years of age have received instruction, working two hours each day in two classes, one in the morning and one in the afternoon.

A teacher has been employed in this branch at a salary of \$50 per month and board.

The boys have been instructed in sawing, hammering, planing, gauging, gluing, mortising, tenoning, dovetailing, jointing, dovetail-jointing, blind-dovetail-jointing, dowel-jointing, mitering, etc., and have made good progress, as samples of their work will show.

In addition to their regular class work forty tables of different styles have been made, thirty-three of which have been sold. There has been little profit in this work at the prices obtained, but something has been earned to help pay expenses. Small prizes have been given for proficiency.

It seems impossible to make the shop self-sustaining since the tree-boxes for the Parking Commission are no longer needed.

The tree-boxes and stakes furnished this Commission have heretofore been the main source of revenue for paying the expenses.

The property of this branch consists of one ten-horse power engine and boiler, nearly 40 feet of shafting, with three connecting pulleys for extra gearing, furnishing ample power for more machinery if necessary;

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five sets of tools, a circular saw and frame, a turning-lathe, a jig-saw, and a grindstone. A lot of tree-box lumber is on hand, available for no other purpose.

The following is the balance sheet for the year:

DR.	
Tree-box lumber on hand July 1, 1886.....	\$749.09
Fuel, lumber, and expense of hauling and piling.....	576.63
Tools purchased.....	32.55
Wages of carpenter.....	600.00
	1,958.27
CR.	
14,364 stakes sold to Parking Commission.....	\$596.76
90 tree-boxes sold to same.....	35.10
Cash received for tables, etc., sold.....	54.40
Tree-box lumber on hand July 1, 1887.....	628.44
	1,314.70
Net loss.....	643.57
	1,958.27

THE GREENHOUSE.

Instruction has been given in the propagation and care of flowers and ornamental plants by a competent florist to six boys.

This is considered one of the most important branches of industry, as boys educated to become good florists find ready employment.

The hope expressed in last year's report that the greenhouse had been placed upon such a footing as to be self-sustaining has not been realized, the expenditures over receipts being \$237.69.

A plan is proposed for another year which, if carried out, will probably result in making it pay expenses.

The following exhibit shows the receipts and expenses:

EXPENSES.	
Pots purchased.....	\$60.00
Seeds.....	1.67
Fuel.....	45.00
Repairs.....	3.10
Rent of stall in market.....	6.50
Florist's salary.....	360.00
	476.27
RECEIPTS.	
Flowers and plants sold.....	238.58
Net loss.....	237.69
	476.27

FARM AND GARDEN.

The farm and garden furnished occupation for all the boys when not employed in the shop and greenhouse, and were very productive, furnishing vegetables and small fruits in abundance for home use, and nearly forage enough for the four cows kept. Nothing was sold except the strawberries, the receipts for which amounted to \$13.20.

The cows have yielded 8 or 9 gallons of milk a day on an average, sufficient to supply the institution.

The following is a statement of the garden and farm account for the year:

FARM PRODUCTS.

Strawberries	quarts..	900	Turnips	bushels..	16
Raspberries	do.....	430	Onions	do.....	35
Cherries	do.....	200	Lima beans (pods).....	do.....	30
Pears	bushels..	4	Beets	do.....	20
Grapes	pounds..	600	Tomatoes	do.....	30
Green corn	dozens..	350	Cabbages.....	heads..	100
Parsnips	bushels..	10	Watermelons		200
Green pease (pods)	do.....	40	Cantaloupes.....		90
Asparagus	bundles..	150	Hay	tons..	4
Potatoes	bushels..	80	Corn-fodder.....	do.....	9
Carrots	do.....	15	Milk	gallons..	3,000
Lettuce	dozen..	85			

The wholesale value of the above is about \$1,200

The cost of raising and purchasing of feed, about 650

Making profit of farm 550

GIRLS' DEPARTMENT.

The girls are well taught in all branches of domestic work and trained to be good housekeepers. All receive instruction in sewing from the seamstress.

Those of suitable age learn to use the sewing-machine. Most of the clothing required by the inmates is made at the Home.

The following is a list of articles made in the sewing-room from July, 1886, to July, 1887:

Aprons	17	Patch-work blocks.....	226
Bed comfort	1	Pen-wipers	25
Caps	37	Pillow cases.....	86
Collars	8	Shirt waists	58
Coats	26	Shirts	103
Dresses.....	112	Skirts	59
Drawers (pairs)	154	Sheets.....	59
Dolls, dressed.....	15	Table-cloths.....	4
Dish-cloths	24	Trousers (pairs)	142
Mattress covers.....	2	Towels.....	10
Night-gowns	24		

The mending averages about 150 pieces per week.

Practical instruction in plain cooking has been given by the house-keeper, Miss Parker, to the elder girls.

Two girls at a time work with the regular cook in preparing the family dinner.

A class of 8 has been instructed in laundry work. They learn to wash, starch, and iron dresses and small pieces. The main laundry work of the school is done by machinery.

SHOEMAKING.

The shoe-shop was discontinued about four years ago.

There are some tools, such as knives, lasts, etc., on hand, which would be available if it should be deemed advisable to resume this work.

Owing to the fact that it would not be likely to pay expenses, and the boys old enough to be employed are engaged in occupations of more practical importance, it has not been deemed advisable at present to put it in operation.

INDUSTRIAL EDUCATION.

We are of the opinion that industrial education should be made a leading feature of the institution, notwithstanding the work which these children perform can not be made remunerative or self-supporting.

A proper education of the children committed to our charge requires that they be taught the use of tools and instructed in the elementary principles of trades and handicrafts, that they may acquire habits of industry and self-reliance, learn the dignity of labor, and be better prepared for whatever positions in life they will be called upon to fill.

A committee of the board of managers visited the Manual Training School in Baltimore during the year to obtain suggestions, but the features of that school could not be adopted by us without making a radical change in the character of the institution.

There are other industries in addition to those now in operation which might be introduced without great expense, such as printing, type-writing, forging, modeling in clay, tailoring, and dressmaking.

A blacksmith's forge would cost about \$16, and the necessary tools from \$25 to \$30.

One disadvantage we labor under is that the children are not usually retained in the institution until their training has been such as to fit them for some regular employment. In many instances they are withdrawn a short time after admission.

VISITORS.

General visitors to the Home are welcome at all times. The parents or relatives and friends of the children are allowed to visit them on the first Wednesday of each month.

PROPERTY.

The property of the institution is owned by the District of Columbia, and is increasing in value yearly. The land, improvements, etc., are now estimated to be worth \$40,000.

IMPROVEMENTS.

The improvements during the year consisted of one new brick building, erected at an expense of \$3,500, the first floor of which is used for a shop and laundry, and the second story for a dormitory for boys, and a room for the attendant nurse.

One hundred wards can now be accommodated, if money is provided for their support.

The laundry has been fitted up with new machinery, operated by steam power from the shop adjoining.

The old frame building formerly used as a work-shop has been moved to a new site, and is now used as a play-room for the boys, and a portion of land adjoining is set apart for a play-ground.

The sewerage, which was in a defective condition, has been relaid and extended.

The lower portion of the old almshouse building has been extensively repaired by removing the old plastering, old floors, and a part of the doors and windows, and replacing them with new. This renovated part has been turned into a dining-room and kitchen. A new cooking range has been purchased and much additional plumbing done. Considerable painting and papering has been done.

FINANCIAL.

The receipts and expenditures of the institution for the year were as follows:

Receipts	\$15, 152. 16
Expenditures	12, 235. 24
Balance	2, 916. 92

There were unpaid bills at the end of the year amounting to \$2,236.28, making the correct balance applicable to the current year \$680.64.

The appropriation for the current year ending June 30, 1888, is \$10,000.

For the year ending June 30, 1889, for which provision should be made at the next session of Congress, the following is the estimate of the amount required:

For maintenance, including salaries	\$10, 000
For promotion of industries	1, 000
For steam-heating apparatus	3, 000
Total	14, 000

At a meeting of the association held December 13, 1886, Article V of the by-laws was changed to read as follows:

The treasurer shall keep the accounts and have custody of the funds of the association. He shall disburse the money of the association on bills and vouchers attested by the superintendent, when approved by a member of the committee on accounts and the president, and make a report to the association at each annual meeting, and to the board of managers whenever they require.

All the expenditures of the institution have to be audited in the Treasury Department, and finally approved by the First Comptroller.

Respectfully submitted.

LEWIS ABRAHAM,
J. B. T. TUPPER,
ROBERT B. VANCE,
Committee.

WASHINGTON, D. C., May 12, 1887.

GENTLEMEN: At a recent meeting of the board of managers of the Industrial Home School I was instructed to address you on the following subject:

In passing upon applications for admission into the Home the rule has been adopted that each child shall be examined by a reputable physician as to its condition of health, both physically and mentally. As chairman of the committee, I have had to reject quite a number of children in consequence of impaired and defective intellect. These feeble-minded, dependent children are not fit subjects for the lunatic asylum, where if sent they would, in many cases, become confirmed maniacs. A hospital for the treatment of bodily ailments is equally an unfit place, although many of them gravitate to one or the other of such asylums. Others, finding no suitable place for refuge, are left to wander about or are kept at home under baleful influences, and for some violation of law are committed to the reform school or penal institutions to associate with the vile and corrupt. In no sense are such minors criminals, and their classification as such or as lunatics is of itself a crime.

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In all well-regulated communities in the United States special provision is made, in common with other eleemosynary institutions, for the care, protection, and improvement of the condition of the feeble-minded. In this District there is a sad dereliction in this direction. During the past six days guardians and parents of twelve feeble minded children have made application to me for admission into the Industrial Home School. It is manifestly improper to receive them therein as wards; they would demoralize the other inmates. Besides, the institution has no facilities for the treatment of such dependents. They require peculiar nurture, training, and education, under the supervision of a person experienced in such matters—in fact, a specialist. Such children should not be intermingled indiscriminately with others of sound mind and unimpaired intellect; they certainly should not be cast among criminals and vagabonds. Under proper treatment the feeble-minded are always improved, and often the defection is eradicated.

In behalf of the board of managers your attention to the subject is respectfully invited. It is thought that there may be funds at your disposal to provide a ward in some institution where, under charge of a specialist, dependent children of feeble minds, and defective or weak intellects, may be cared for at the public cost.

A copy of this communication has been transmitted to some charitable associations, with the request that such action may be had thereon as may be thought fit.

Very respectfully,

LEWIS ABRAHAM,
*Chairman Committee on Admission and
Placement, Industrial Home.*

THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

To the Board of Managers of the Industrial Home School.

Your committee, appointed to make estimates of the expenses of the Home for the year ending June 30, 1889, report as follows:

There will be required for the maintenance of inmates, including the payment of salaries, \$10,000.

For the promotion of industries, \$1,000.

And we strongly recommend that the honorable District Commissioners be requested to ask, for the purpose of putting in the apparatus for steam-heating the premises, the sum of \$3,000.

Respectfully submitted.

W. S. STOCKBRIDGE.
EDWARD L. DENT.
W. W. CURTIS.

WASHINGTON, D. C., *September 1, 1887.*

GENTLEMEN: Herewith is a statement of the treasurer of the Industrial Home School for the year ending June 30, 1887. Also the superintendent's abstract of account of the industrial department of the school, together with committee's estimates of expenses for the year ending June 30, 1888.

The almshouse fund, which we have relied on to maintain our industrial features, has been withdrawn, and we now ask the moderate sum of \$1,000 to provide industrial training to ninety destitute children.

The item for steam-heating is important as a source of economy and cleanliness, as well as convenience. Besides, it will give us an additional supply of steam, much needed for our increased machinery and for laundry work.

Very respectfully,

W. S. STOCKBRIDGE,
For the Board.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

WASHINGTON, D. C., *September 1, 1887.*

GENTLEMEN: As treasurer of the Industrial Home School of the District of Columbia, I beg to submit the following statement of the condition of the finances of the institution at the close of the fiscal year ended June 30, 1887, and of the receipts and expenditures during that year, as follows:

RECEIPTS.

Cash in Second National Bank, July 1, 1886	\$758. 63
Cash in United States Treasury, July 1, 1886	1, 175. 98
Amount of Congressional appropriation	10, 000. 00
Amount received from District Commissioners, tree-box fund	970. 51
Amount received from District Commissioners, maintenance fund	1, 940. 40
Amount received from donations	5. 00
Amount received from sale of strawberries and plants	168. 58
Amount received from miscellaneous sources	95. 10
Balance of proceeds of pound party	37. 96
Total	15, 152. 16

EXPENDITURES.

Total expenditures, as shown by Schedule A herewith..... 12, 235. 24

Balance on hand July 1, 1887..... 2, 916. 92

Of this balance \$1,636.50 remained in the United States Treasury, while \$1,280.42 was on deposit in the Second National Bank.

There have been received since the close of the last fiscal year the following amounts, which should properly be included in the receipts of that year, to wit:

Amount received from District Commissioners, maintenance fund, June, 1887, \$147. 85	
Amount received from sale of strawberries and plants prior to June 30, 1887, and during the fiscal year ending that date	122. 85
	269. 85

Add this amount (\$269.85) to the balance in my hands July 1, 1887 (\$2,916.92) and the total balance from the income of the year to meet the debts outstanding at that date will be seen to be \$3,186.77.

Against this sum there were outstanding on July 1, 1887, bills aggregating nearly \$3,000, most of which have since been paid. Hence there was a balance on hand over and above all debts.

Very respectfully,

W. W. CURTIS,
Treasurer.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

In all well-regulated communities in the United States special provision is made, in common with other eleemosynary institutions, for the care, protection, and improvement of the condition of the feeble-minded. In this District there is a sad dereliction in this direction. During the past sixty days guardians and parents of twelve feeble minded children have made application to me for admission into the Industrial Home School. It is manifestly improper to receive them therein as wards; they would demoralize the other inmates. Besides, the institution has no appliances for the treatment of such dependents. They require peculiar nurture, training, and education, under the supervision of a person of experience in such matters—in fact, a specialist. Such children should not be intermingled indiscriminately with others of sound mind and unimpaired intellect; they certainly should not be cast among criminals and maniacs. Under proper treatment the feeble-minded are always improved, and often the defection is eradicated.

In behalf of the board of managers your attention to the subject is respectfully invited. It is thought that there may be funds at your disposal to provide a ward in some institution where, under charge of a specialist, dependent children of feeble minds, and defective or weak intellects, may be cared for at the public cost.

A copy of this communication has been transmitted to some charitable associations, with the request that such action may be had thereon as may be thought fit.

Very respectfully,

LEWIS ABRAHAM,
*Chairman Committee on Admission and
Placement, Industrial Home.*

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

To the Board of Managers of the Industrial Home School.

Your committee, appointed to make estimates of the expenses of the Home for the year ending June 30, 1889, report as follows:

There will be required for the maintenance of inmates, including the payment of salaries, \$10,000.

For the promotion of industries, \$1,000.

And we strongly recommend that the honorable District Commissioners be requested to ask, for the purpose of putting in the apparatus for steam-heating the premises, the sum of \$3,000.

Respectfully submitted.

W. S. STOCKBRIDGE.
EDWARD L. DENT.
W. W. CURTIS.

WASHINGTON, D. C., *September 1, 1887.*

GENTLEMEN: Herewith is a statement of the treasurer of the Industrial Home School for the year ending June 30, 1887. Also the superintendent's abstract of account of the industrial department of the school, together with committee's estimates of expenses for the year ending June 30, 1888.

The almshouse fund, which we have relied on to maintain our industrial features, has been withdrawn, and we now ask the moderate sum of \$1,000 to provide industrial training to ninety destitute children.

The item for steam-heating is important as a source of economy and cleanliness, as well as convenience. Besides, it will give us an additional supply of steam, much needed for our increased machinery and for laundry work.

Very respectfully,

W. S. STOCKBRIDGE,
For the Board.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

WASHINGTON, D. C., September 1, 1887.

GENTLEMEN: As treasurer of the Industrial Home School of the District of Columbia, I beg to submit the following statement of the condition of the finances of the institution at the close of the fiscal year ended June 30, 1887, and of the receipts and expenditures during that year, as follows:

RECEIPTS.

Cash in Second National Bank, July 1, 1886	\$758.63
Cash in United States Treasury, July 1, 1886	1,175.98
Amount of Congressional appropriation	10,000.00
Amount received from District Commissioners, tree-box fund	970.51
Amount received from District Commissioners, maintenance fund	1,940.40
Amount received from donations	5.00
Amount received from sale of strawberries and plants	168.58
Amount received from miscellaneous sources	95.10
Balance of proceeds of pound party	37.96
Total	15,152.16

EXPENDITURES.

Total expenditures, as shown by Schedule A herewith..... 12,235.24

Balance on hand July 1, 1887..... 2,916.92

Of this balance \$1,636.50 remained in the United States Treasury, while \$1,280.42 was on deposit in the Second National Bank.

There have been received since the close of the last fiscal year the following amounts, which should properly be included in the receipts of that year, to wit:

Amount received from District Commissioners, maintenance fund, June, 1887,	\$147.85
Amount received from sale of strawberries and plants prior to June 30, 1887,	122.85
and during the fiscal year ending that date	269.85

Add this amount (\$269.85) to the balance in my hands July 1, 1887 (\$2,916.92) and the total balance from the income of the year to meet the debts outstanding at that date will be seen to be \$3,186.77.

Against this sum there were outstanding on July 1, 1887, bills aggregating nearly \$3,000, most of which have since been paid. Hence there was a balance on hand over and above all debts.

Very respectfully,

W. W. CURTIS,
Treasurer.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

438 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

SCHEDULE A.—*Showing the disbursements by treasurer of Industrial Home School, District of Columbia, during the fiscal year ending June 30, 1887.*

[Paid from Second National Bank.]

No. of Voucher.	To whom paid.	On what account—	Amount.
1	Dr. J. F. R. Appleby	Physician, July, 1885, to July 1, 1886	\$86.00
2	Mrs. H. W. Blackford	Postage, 1885-'86	8.16
3	Thomas Goodrich	Fence built, July 24, 1886	22.50
4	Greenleaf, Johnson & Co	Lumber, April, 1886	504.25
5	W. S. Stockbridge	Pay-roll, July, 1886	325.00
6	A. Remey	Carpenter, July, 1886	54.00
7	Treasurer United States	Net revenue fiscal year ending June 30, 1886, required by law to be paid to the Government.	98.61
8	Clara G. Brewer	Teacher, five weeks, July and August	25.00
9	C. H. Bivens	Renovating pillows and for new ticks, June, 1886.	2.40
10	Joseph Simmons	Carpenter, August, 1886	65.00
11	Joseph & J. E. Libbey	Lumber, January to May, 1886	49.60
12	Lycett's book-bindery	Binding August, 1886	5.00
13	F. A. Law	Clerk, first quarter 1886-'87	25.00
14	Public Printer	Printing report for 1885	10.65
15	Paul Hiser & Sons	Flower-pots, April, 1886	5.50
16	Henry Wetzel	Blacksmith, October and September, 1886.	2.55
17	John Lynch	Blacksmithing, April, May, to September, 1886.	17.00
18	W. S. Stockbridge	Pay-roll, November, 1886	294.80
19	Margaret Cole	Seamstress, three days, at 75 cents	2.25
20	James Simmons	Carpenter, November, 1886	50.00
21	Mrs. J. W. Douglas	Stationery, etc., September, October, and November, 1886.	1.17
22	Mrs. H. W. Blackford	Postage-stamps, July 1 to November 30, 1886.	2.49
23	W. S. Stockbridge	Singing-books, clothes, etc., July to November, 1886.	19.30
24	Arlington Fire Insurance Company	Insurance on property to December 1, 1887.	12.50
25	W. G. Offutt	Two thousand three hundred and eighty-five pounds of hay, bt. December 3, 1886.	11.92
26	R. D. Weaver & Bro.	Meats, July, 1886	57.16
27	do	Meats, August, 1886	52.04
28	do	Meats, September, 1886	48.32
29	M. W. Beveridge	House ware, April, May, and June, 1886.	8.25
30	do	House ware, August, 1886	7.95
31	S. H. Brown	Chamber ware, etc., March 12 to May 28, 1886.	8.03
32	Cartright & Johnston	Lime, April and September 9, 1886	1.35
33	F. A. Law	Clerk to treasurer, second quarter 1886-'87.	25.00
34	Mayfield & Hieston	Coal, January to May, 1886	206.50
35	John Saul	Seeds, January, February, March, and September, 1886.	7.82
36	Miss L. Temey	Periodical, etc.	7.00
37	Excelsior Printing Company	For 2,000 blank vouchers	15.00
38	W. A. Dix	Repairs to harness and strap, July and October, 1886.	3.65
39	Excelsior Printing Company	Printing invitations for secretary, January, 1887.	1.00
40	J. H. Miller	Two thousand two hundred and seventy-five pounds hay, at 50 cents, February, 1887.	16.37
41	Joseph & J. E. Libbey	Lumber, November, 1886	14.31
42	do	Lumber, December, 1886	10.00
43	Thomas W. Riley	Lumber, wharfage, etc., July, 1886	30.88
44	Henry Wetzel	Blacksmithing, January and February, 1887.	4.01
45	J. T. Payne, agent	Boots and repairs, September to December, 1886; January to March 2, 1887.	27.85
46	W. S. Stockbridge	To pay florist and laundrying, February and March, 1887.	9.60
47	F. A. Law	Clerk to treasurer, third quarter 1886-'87	25.00
48	W. S. Stockbridge	Chairs, labor, etc., February to April, 1887	39.15
49	Henry Wetzel	Blacksmithing, March and April, 1887 ..	2.31
50	Leon Salomon	Difference between fresh and dry cow ...	20.00
51	John Lynch	Shoeing, etc., October, 1886, to March 30, 1887.	13.25
52	J. S. Blackford	Needles and patterns, January, 1887	2.20

SCHEDULE A.—Showing the disbursements by treasurer of Industrial Home School, District of Columbia, etc.—Continued.

[Paid from Second National Bank.]

No. of voucher.	To whom paid.	On what account—	Amount.
53	Charles Fischer	Braces and shoes, December, 1886, and January, 1887	\$16. 06
54	Joseph Simmons	Carpenter, May, 1887	50. 00
55	George T. Fritch & Son	Two dozen brooms, at \$2.50	5. 00
56	Henry Wetzel	Blacksmithing, May, 1887	8. 62
57	Charles Becker	Medicines, June and November, 1885; January to April, 1886	64. 85
58	L. T. Fay	Plastering 3 rooms in main building, June, 1887	75. 00
59	F. P. May & Co	Tools bought in December, 1886, and January, 1887	25. 55
60	J. K. Skanks	Painting houses	45. 20
61	L. T. Fay	Plastering, etc.	76. 00
62	F. A. Law	Clerk to treasurer, fourth quarter 1886-'87	25. 00
		Total	2, 695. 76

[Paid from United States Treasury.]

1	Luttrell & Wine	Dry goods, August, 1886	\$27. 28
2	Carrie V. Law	Teacher, August and September, 1886	20. 00
3	Greenleaf Johnson	Lumber, July, 1886	390. 25
4	Pay-roll	September, 1886	325. 00
5	James Simmons	Carpenter, September, 1886	65. 00
6	Pay-roll	August, 1886	325. 00
7	Henry Wetzel	Blacksmithing, July, 1886	2. 50
8	Fred. Stohlman	Bread, July, 1886	101. 22
9	do	Bread, August, 1886	84. 98
10	Luttrell & Wine	Dry goods, July, 1886	18. 03
11	Henry Wetzel	Blacksmithing, September, 1886	3. 85
12	G. W. Offutt & Bro.	Groceries, July, 1886	74. 60
13	do	Groceries, August, 1886	90. 96
14	do	Groceries, September, 1886	91. 62
15	do	Feed, July, 1886	21. 60
16	do	Feed, August, 1886	19. 88
17	do	Feed, September, 1886	35. 07
18	Paul Hiser & Sons	Flower-pots, October, 1886	54. 00
19	B. Nordlinger	Shoes, July, 1886	41. 45
20	do	Shoes, August, 1886	28. 35
21	do	Shoes, September, 1886	35. 90
22	Buckey & Marbury	Hardware, July, August, and September, 1886	21. 74
23	Pay-roll	October, 1886	325. 00
24	James Simmons	Carpenter, October, 1886	50. 00
25	Mrs. Russell Brace	Medicines, July, August, and September, 1886	24. 46
26	Frederick Stohlman	Bread, September, 1886	87. 92
27	George T. Fritch & Sons	Brooms, August 28, 1886	5. 50
28	Joseph Carter	Hay, November 8, 1886	15. 82
29	W. G. Offutt	Seven barrels corn, November 20, 1886	17. 50
30	Frederick Stohlman	Bread, October, 1886	103. 74
31	J. Donaldson	Hay, October, 1886	10. 81
32	Henry Wetzel	Blacksmithing, November, 1886	1. 15
33	Luttrell & Wine	Dry goods, September and October, 1886	69. 12
34	do	Dry goods, November, 1886	90. 58
35	B. H. Stinemetz & Son	Hats, November, 1886	6. 04
36	Joseph & J. E. Libbey	Lumber, July, 1886	38. 90
37	Jos. and J. E. Libbey	Lumber, August, 1886	41. 78
38	do	Lumber, September, 1886	13. 14
39	do	Lumber, October, 1886	47. 30
40	H. Burkhart	Furniture, December 22, 1886	10. 27
41	Jos. Simmons	Carpenter, December, 1886	50. 00
42	W. S. Stockbridge	Pay-roll, December, 1886	295. 00
43	Fred. Stohlman	Bread, November, 1886	99. 47
44	do	Pies and bread, December, 1886	95. 06
45	G. W. Offutt & Brother	Groceries, October, 1886	101. 63
46	do	Groceries, November, 1886	93. 06
47	do	Groceries, December, 1886	101. 78
48	do	Feed, October, 1886	28. 00
49	do	Feed, November, 1886	28. 45
50	do	Feed, December, 1886	20. 14

440 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

SCHEDULE A.—Showing the disbursements by treasurer of Industrial Home School, District of Columbia, etc.—Continued.

[Paid from Second National bank.]

No. of voucher.	To whom paid.	On what account—	Amount.
51	Mrs. Russell Brace.....	Medicines, October, November, and December, 1886.	\$32.38
52	J. H. Miller.....	Corn, January, 1887.....	25.00
53	M. Wilson.....	Wood and hay, January, 1887.....	47.72
54	B. Nordlinger.....	Shoes, October, 1886.....	49.20
55	do.....	Shoes, November, 1886.....	53.55
56	do.....	Shoes, December, 1886.....	55.75
57	W. Nordlinger.....	Clothing, November and December, 1886, and January, 1887.	71.70
58	Buckey & Marbury.....	Hardware, October, November, and December, 1886.	31.44
59	James K. Probey.....	Carriage repairs, November, 1886.....	7.50
60	Mrs. Sarah C. Smith.....	Wood, January, 1887.....	54.00
61	Jos. Simmons.....	Carpenter, January, 1887.....	50.00
62	W. S. Stockbridge.....	Pay-roll, January, 1887.....	290.00
63	M. C. Mitchell.....	Stove repairs, etc., October and December, 1886, and January, 1887.	69.10
64	Luttrell & Wine.....	Dry goods, November and December, 1886, and January, 1887.	52.67
65	J. E. Libbey.....	Lumber, January, 1887.....	79.04
66	Singer Manufacturing Company.....	Sewing-machine, December, 1886.....	25.00
67	James K. Probey.....	Wagon, February, 1887.....	135.00
68	W. S. Stockbridge.....	Pay-roll, February, 1887.....	302.75
69	Jos. Simmons.....	Carpenter, February, 1887.....	50.00
70	Fred. Stohlman.....	Bread, January, 1887.....	94.83
71	Alex. Tenant.....	Plumbing, December, 1886, and January, 1887.....	8.45
72	Carroll Daley.....	Manure, March, 1887.....	45.01
73	M. Wilson.....	Hay, March, 1887.....	13.47
74	do.....	Hay and wood, February, 1887.....	31.12
75	R. D. Weaver & Brother.....	Meat, October, 1886.....	45.86
76	do.....	Meat, November, 1886.....	49.56
77	do.....	Meat, December, 1886.....	37.26
78	do.....	Meat, January, 1887.....	46.22
79	do.....	Meat, February, 1887.....	44.40
80	Fred. Stohlman.....	Bread, February, 1887.....	100.24
81	Jos. Simmons.....	Carpenter, March, 1887.....	50.00
82	W. S. Stockbridge.....	Pay-roll, March, 1887.....	269.00
83	M. Wilson.....	Hay, 3,580 lbs., April 19, 1887.....	17.90
84	G. W. Offutt & Brother.....	Groceries, January, 1887.....	151.17
85	do.....	Groceries, February, 1887.....	74.05
86	do.....	Groceries, March, 1887.....	77.36
87	do.....	Feed, January, 1887.....	19.18
88	do.....	Feed, February, 1887.....	15.32
89	Mrs. R. Brace.....	Medicines, January, February, and March, 1887.	28.38
90	W. F. Seymour.....	Hats, August 27, 1886.....	1.50
91	A. W. Collamore.....	Moving new building, etc., April, 1887..	140.00
92	W. S. Stockbridge.....	Pay-roll, April, 1887.....	280.00
93	Jos. Simmons.....	Carpenter, April, 1887.....	50.00
94	Buckey & Marbury.....	Hardware, January, February, and March, 1887.	18.55
95	B. Nordlinger.....	Shoes, January, 1887.....	25.65
96	do.....	Shoes, February, 1887.....	35.75
97	do.....	Shoes, March, 1887.....	43.15
98	do.....	Shoes, April, 1887.....	58.65
99	J. Edward Libbey.....	Lumber, February, 1887.....	6.22
100	do.....	Lumber, March, 1887.....	76.89
101	do.....	Lumber, April, 1887.....	74.83
102	Paul Hiser & Sons.....	1,000 3-inch flower-pots, March, 1887.....	6.00
103	Luttrell & Wine.....	Dry goods, February and March, 1887...	77.26
104	Mayfield & Hieston.....	Coal, July to December, 1886.....	327.50
105	W. S. Stockbridge.....	Pay-roll, June, 1887.....	315.50
106	Jos. Simmons.....	Carpenter, June, 1887.....	50.00
107	W. S. Stockbridge.....	Pay-roll, May, 1887.....	319.38
108	Series 1884-'85: George W. Paul.....	Laborer, December, 1884.....	2.50
109	Series 1885-'86: Henry Wetzel.....	Blacksmithing, June, 1886.....	2.88
110	Roth & Geohegan.....	Butter and onions, March, 1886.....	12.50
111	do.....	Butter and cheese, April, 1886.....	20.29
112	do.....	Butter and cheese, May, 1887.....	14.50
113	Fred. Stohlman.....	Bread, May, 1887.....	107.38
114	Joseph F. Birch.....	Undertaker for Fred. Rush, January, 1886.	10.00

SCHEDULE A.—*Showing the disbursements by treasurer of Industrial Home School, District of Columbia, etc.—Continued.*

[Paid from United States Treasury.]

No. of Voucher.	To whom paid.	On what account—	Amount.
109	R. D. Weaver & Bros	Meats, November, 1885	\$38. 90
110	do	Meats, February, 1886	47. 36
111	do	Meats, March, 1886	52. 34
112	do	Meats, April, 1886	51. 83
113	do	Meats, May, 1886	53. 66
114	do	Meats, June, 1886	54. 60
115	B. Nordlinger	Shoes, May, 1886	78. 60
116	do	Shoes, June, 1886	45. 35
117	Buckey & Marbury	Nails, April, 1886	11. 70
118	do	Hardware, April, May, and June, 1886	14. 61
119	G. W. Offutt & Bro.	Groceries, April, 1886	46. 44
120	do	Groceries, May, 1886	56. 35
121	do	Groceries, June, 1886	63. 54
122	do	Feed, April, 1886	19. 31
123	do	Feed, May, 1886	7. 25
124	do	Feed, June, 1886	28. 55
125	W. Nordlinger	Clothing, January, May, and June, 1886 ..	41. 07
126	Fred. Stohlman	Bread, June, 1886	81. 83
127	James K. Probey	Wagon repairs, November, 1885, and May, 1886	9. 75
128	Mrs. Russel Brace	Medicines, April to June, 1886	38. 40
129	S. M. Waters	Pump repairs, girls' cottage, June, 1886 ..	8. 00
130	M. C. Mitchell	Buckets, etc., January to June, 1886	5. 65
131	Jos. and J. E. Libbey	Lumber, June, 1886	11. 10
132	Luttrell & Wine	Dry goods, May and June, 1886	35. 17
133	John Saul	Seeds, January, 1886	2. 25
134	do	Seeds, November 6, 1885	4. 00
135	G. F. Dunlap	Seeds and plants, March to June 23, 1886 ..	34. 97
136	H. Hoffa	Boards and scroll-saws, November, 1885 ..	1. 38
137	S. K. Brown	Chamber ware, etc., September, 1885, to March, 1886	16. 89
138	B. H. Stinemetz & Son	Hats, May, 1886	16. 25
139	Cartright & Johnson	Lime and plaster, July, August, and December, 1885	1. 56
140	J. G. & J. M. Waters	Cement, February and June, 1886	6. 25
141	Mrs. P. Emrich	Millinery, etc., October, November, and December, 1885	13. 61
142	M. A. Conrow	Kindergarten supplies, November, 1885 ..	3. 45
143	W. W. Curtis	Postage-stamps for use of treasurer	3. 37
	Total		12, 235. 24

442 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Abstract of carpenter's shop account for the year ending June 30, 1887, at the Industrial Home School.

DR.

1886-'87.			
July	1.	To lumber on hand	\$749. 09
		To bought of Greenleaf, Johnson & Son	390. 25
	5.	To Thomas Riley, for hauling and freight	30. 88
	12.	To piling stakes in property yard	4. 50
			<u>\$1, 174. 72</u>
		To 6 tons Cumberland coal	21. 00
		To 4 tons stove coal	20. 00
		To lumber, for use of shop	110. 00
		To tools, for use of shop	7. 00
		To carpenter's wages	600. 00
			<u>758. 00</u>
			<u>1, 932. 72</u>

CR.

Nov.	20.	By 2 dolls' houses made	6. 00
Jan.	12.	By 1 table sold	2. 00
	17.	By 5,000 stakes to Parking Commission	222. 20
			<u>230. 20</u>
May	25.	By 9,364 stakes to Parking Commission	374. 56
		By 90 small boxes	35. 10
			<u>409. 66</u>
Feb.	5.	By 1 table sold	2. 00
	17.	By 9 tables sold	13. 80
Mar.	9.	By 1 table sold	2. 00
Apr.	4.	By 12 tables sold	15. 60
May	18.	By 9 tables sold	13. 00
			<u>46. 40</u>
June	30.	By lumber on hand	628. 44
		By net loss	618. 02
			<u>1, 246. 46</u>
			<u>1, 932. 72</u>

Below is abstract of greenhouse account for the same time and place:

DR.

1886-'87.			
Oct.	1.	To seeds purchased	\$1. 67
	4.	To 3,000 flower-pots	54. 00
	18.	To bend, for greenhouse pipe	. 85
	20.	To 1 box glass	2. 25
			<u>\$58. 77</u>
		To 7 tons coal	42. 00
Dec.	5.	To 2 tons coal	12. 00
Mar.	30.	To 1,000 3-inch pots	6. 00
June	30.	To florist's salary for the year	360. 00
			<u>420. 00</u>
			<u>478. 77</u>

CR.

1887.			
June	30.	By received for sale of plants	238. 58
		By net loss	240. 19
			<u>478. 77</u>
		Combining the net loss of shop and greenhouse we have	<u>858. 21</u>

The above, to the best of my knowledge and belief, is a correct statement of the account, of shop and greenhouse, at the Industrial Home School, for the year ending June 30, 1887.

W. S. STOCKBRIDGE,
Superintendent.

D.—REPORT OF COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM.

WASHINGTON, D. C., November 1, 1887.

GENTLEMEN: In accordance with the requirements of Congress, the board of directors of the Columbia Hospital for Women and Lying-in Asylum herewith present to you the annual report of the surgeon in charge, and the treasurer's full and detailed statement of receipts and expenditures.

The institution is the property of the United States, incorporated by Congress in the year 1866, and situated on the northeast corner of Twenty-fifth and L streets N. W. For the past year the surgeon reports the total number of patients to have been 414, and the daily average $36\frac{967}{1000}$, this number being an increase over all previous years, and evincing the growth and prosperity of the institution.

The main support of the hospital is the annual Congressional appropriation of \$15,000. This sum alone would not, however, sustain the institution in its present efficiency. Fortunately, what would otherwise prove a yearly deficiency is made up by receipts from pay patients, which during the past year have amounted to \$5,634. This amount will have been expended by 1st January, 1888, for the extension of the cottage connected with the lying-in department of the hospital, leaving no surplus then on hand from the pay-patient fund for the contingent expenses of the coming year.

In addition to the annual appropriation of \$15,000 required for current expenses, we earnestly repeat our urgent request for a special appropriation of \$10,000 for an elevator, and for the extension of the laundry. These are not luxuries, but necessities. Patients too feeble to walk up and down stairs actually suffer for want of the needed elevator; and the laundry is a necessity for cleanliness, purity, and health. Already approved by the honorable Commissioners of the District, we trust that this recommendation of our board of directors may have renewed consideration and favorable attention.

During the year our board has lost by death our honored treasurer, Dr. C. H. Cragin, for whose high character and long and faithful service we here record our tribute of grateful remembrance.

We believe the hospital to be worthily and successfully accomplishing its beneficent purpose, and again commend it to your friendly approval and support.

Very respectfully,

RUSH R. SHIPPEN,
President of the Board of Directors.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

To the Board of Directors of Columbia Hospital for Women:

GENTLEMEN: The following tabulated statement shows the workings of the various departments of the hospital for the fiscal year ending June 30, 1887.

As will be seen the number of patients admitted and treated has been greater than that of any previous year of the hospital's existence and the revenue derived from pay patients largely in excess of the amount received from that source since the hospital has been established.

The adult mortality is less than 1 per cent., and it affords me much pleasure to be able to make such a favorable report to you of the condi-

tion of the hospital and its inmates. I would again respectfully call your attention to the necessity for an elevator to convey patients to and from the various portions of the hospital.

Many of the patients, owing to their condition, are unable to go up and down stairs, and the serving of meals in the wards greatly increases the per capita expenditure of the inmates and tends to serious inconvenience regarding the discipline of the institution.

Without a new laundry, proper cleansing, etc., of clothing can not be carried on, and therefore it is incumbent upon your honorable body to procure the necessary appropriation from Congress to secure this means of protecting the inmates of the institution under your charge from infection arising from that most fruitful source of disease—infected clothing.

It is outside my province to go more fully into the matter, as I have no doubt but that the committee on annual report will give it all the serious thought it deserves.

I can not speak too highly of the care, attention, and hard work of assistants, nurses, etc.; they all deserve from me my best thanks for their hearty co-operation toward the well-being of the hospital.

I am, gentlemen, your obedient servant,
P. J. MURPHY,
Surgeon in Charge.

Patients in the hospital July 1, 1886	33
Patients admitted during the year	381
Total treated during the year	414
COLOR.	
White	245
Colored	169
Total	414
Discharged during the year	376
Died during the year	4
	380
Remaining under treatment July 1, 1887	34
Prescriptions compounded during the year	2,649
Death-rate during the year	.966+ per cent.
Daily average number of patients for the year	36.967+

NATIVITIES.			
Alabama	3	Michigan	1
Canada	1	Mississippi	1
Connecticut	1	Missouri	1
Corsica	1	New York	12
District of Columbia	72	North Carolina	5
England	5	Ohio	10
Florida	2	Pennsylvania	13
Germany	17	Rhode Island	1
Illinois	3	Russia	2
Indiana	2	South America	1
Iowa	1	South Carolina	6
Ireland	28	Switzerland	1
Kansas	1	Tennessee	3
Kentucky	1	Unknown	1
Louisiana	1	Virginia	124
Maine	1	West Virginia	3
Maryland	1		
Massachusetts	85		
	4	Total	414

STATES OR COUNTRIES.

Alabama	1	Massachusetts	1
California	2	Missouri	1
Colorado	1	Nebraska	1
Connecticut	1	New York	4
Dakota	1	North Carolina	6
District of Columbia	246	Ohio	5
England	1	Pennsylvania	5
Florida	2	South Carolina	3
Germany	2	Tennessee	4
Illinois	2	Virginia	68
Kansas	4	West Virginia	3
Maine	1		
Maryland	49	Total	414

Medical and surgical cases, 1886-'87.

Diseases.	Cured.	Relieved.	Unrelieved or incurable.	Unknown.	Died.	In house.	Total.
Abscess, pelvic		2					2
Abscess of vulvo-vaginal gland		1					1
Adenoma mammae	1						1
Amenorrhœa	2	1	1				4
Anteflexion	2	10	1	2		2	17
Anteversión	1						1
Carcinoma of uterus	1	2	4				7
Cellulitis, pelvic	2	2				3	7
Cellulitis, pelvic, chronic	7	11				2	20
Chloranæmia	2						2
Chylous ascites		1					1
Cystitis, acute		1					1
Cystitis, chronic			1	2			3
Cyst of labium majus	2						2
Cyst of vulvo-vaginal gland	1						1
Cystocele		1					1
Cystocele and rectocele						1	1
Cystoma of ovary	1						1
Cysto-sarcoma			1				1
Dysmenorrhœa	1						1
Endocervicitis	1					1	2
Endometritis	1					1	2
Endometritis, chronic	6	11				3	19
Epithelioma of cervix uteri		1					1
Epithelioma of right labium majus	1						1
Erosion of cervix uteri						1	1
Fibroma of uterus		7	1			2	10
Fibroma of cervix uteri		1				1	2
Fibro-cystoma of uterus		2					2
Fistula in ano	1	1					2
Fistula vesico-vaginal			1				1
Fistula recto-vaginal	1						1
Hæmatocele, pelvic					1		1
Hæmorrhoids	1						1
Hypertrophied lip of cervix uteri	1						1
Hysteria		4					4
Hystero-epilepsy	1	2			1		4
Laceration of cervix	1						1
Laceration of cervix and perineum	1	1		1			3
Leucorrhœa	1	2		3			6
Mastitis	1	2					3
Mania				1			1
Menopause		7		2			9
Metritis	1	1					2
Metritis, chronic	3	7				2	12
Metro-peritonitis		1				1	2
Myoma uteri		2					2
Non-developed uterus		1					1
Ovaritis		1				1	2
Polypus uteri	2						2
Procidentia uteri	1	4				2	7
Puerperal tetanus					1		1

Medical and surgical cases, 1886-'87—Continued.

Disease.	Cured.	Relieved.	Unrelieved or incurable.	Unknown.	Died.	In house.	Total.
Rectocele		1					1
Retrollexion of uterus	1						1
Retroversion of uterus	3	3		1			7
Stenosis of cervical canal	1	3				1	5
Sub-involution	5	6					11
Suppressio-mensium			1	1			2
Threatened abortion	3						3
Varicose ulcer of leg	1	1					2
Not subject*							5
Total	62	104	11	13	3	23	221

* Came in as companions for patients.

Operations for fiscal year 1886-'87.

Diseases.	Cured.	Relieved.	Unrelieved or incurable.	Unknown.	Died.	In house.	Totals.
Abcess of vulvo-vaginal gland	1	1					2
Abcess, pelvic		1					1
Caruncle of urethra	1					1	2
Cervix, partial amputation of	1						1
Chylous ascites	1						1
Cyst of vulvo-vaginal gland	1						1
Cystocele	1						1
Cystoma of ovary	1						1
Cysto-sarcoma of uterus		1					1
Epithelioma of cervix uteri		1					1
Epithelioma of labium majus	1						1
Extra-uterine foetation, extraction of foetus through Douglas's pouch	1						1
Felon of thumb	1						1
Fibroma of cervix uteri	1						1
Fibro-cystoma of uterus		1				1	1
Fistula in ano	2	1					1
Fistula, recto-vaginal	1	1					3
Hæmorrhoids	2						1
Laceration of cervix	7						2
Laceration of perineum (primary)	18		1				7
Laceration of perineum (secondary)	1	1					19
Mammary abscess		1					2
Oöphorectomy		1					1
Paracentesis abdominis		1			1		1
Pelvic hæmatocele					1		1
Polypus of rectum	1						1
Polypus uteri	2						1
Pyo-salpinx	1						2
Rectocele						2	1
Stenosis of cervical canal	1	3				1	2
Total	46	12	1	0	2	5	66

OBSTETRICAL REPORT.

In hospital July 1, 1886, delivered.....	10
In hospital July 1, 1886, undelivered.....	3
Total in hospital July 1, 1886.....	13
Admitted during the year.....	180
Total to be accounted for.....	193
Discharged after delivery.....	160
Left undelivered.....	21
Died.....	1
In hospital July 1, 1887, delivered.....	11
In hospital July 1, 1887, undelivered.....	0
	193
Maternal mortality.....	1
Cause of, hemorrhage from placenta prævia centralis.....	
Infantile mortality.....	9
Causes of: Premature birth—debility.....	5
Patulous foramen ovale—asphyxia.....	2
Congenital syphilis—inanition.....	1
Exhaustion from epistaxis.....	1
Still-births.....	5
Causes of: Syphilis.....	2
Asphyxia.....	1
Prolapsed funis.....	1
Hemorrhage from placenta prævia centralis.....	1
Abortions.....	2
Premature births.....	14
Prolapsed funis.....	1
Total number of deliveries.....	155
Admitted immediately after delivery*.....	4
Twins.....	1
Sex of children:	
Male.....	83
Female.....	76
Total.....	159
Breech presentations.....	6
Face presentations.....	1
Shoulder and opposite hand presentation.....	1
Posterior occipital presentation with posterior rotation.....	6
Hand prolapsed with head.....	1
Labor complicated with general lymphadenoma.....	1
Labor complicated with ankylosis of both knees and both hips.....	1
Post-partal hemorrhage.....	6
Placenta prævia centralis.....	1
Extra-uterine pregnancy.....	1
Hemorrhage from umbilical cord.....	1
Puerperal septicæmia.....	4
Primary operations for lacerated perineum.....	19
Forceps at inferior strait.....	7
Forceps at middle strait.....	1
Version-podalic, internal.....	3
Version-podalic, bimanual.....	1
Ophthalmia neonatorum.....	5
Wet nurses supplied.....	3

* One woman admitted after delivery did not bring child.

COLUMBIA HOSPITAL FOR WOMEN,
Washington, D. C.

P. J. MURPHY, M. D.,
Surgeon in Charge:

SIR: We have the honor to submit the following report of Columbia Hospital Dispensary for the fiscal year ending June 30, 1887.

Very respectfully,

JOHN W. BOVEE, M. D.,
J. T. SWEETMAN, Jr., M. D.,
Resident Assistants.

Number of patients under treatment at date of last report.....	87
Number of patients received.....	970
Total number to be accounted for.....	1,057
Number discharged cured.....	100
Number discharged relieved.....	359
Number discharged unrelieved or incurable.....	8
Unknown (did not return).....	205
Sent to hospital from dispensary.....	144
Sent to other institutions.....	116
Number under treatment July 1, 1887.....	125
Number of prescriptions compounded.....	3,723

Report of Columbia Hospital for Women, and Dispensary, Washington, D. C., for year ending June 30, 1887.

	Hospital.	Dispensary.	Total.
Number of patients under treatment at date of last report	33	87	120
Number of patients received	381	970	1,351
Total treated	414	1,057	1,471
Number cured	222	100	322
Number relieved	104	359	463
Unrelieved or incurable	11	8	19
Unknown	34	205	239
Not subjects for treatment	5	0	5
Died	4	0	4
Sent to hospital from dispensary	0	144	144
Sent to other institutions	0	116	116
Number under treatment at date of this report.....	34	125	159
Births	155	0	155
Prescriptions compounded	2,649	3,723	6,372

GENTLEMEN: In pursuance with Chapter XIV, section 4, of the by-laws I have the honor to submit the following inventory of all the hospital property under my care, and also the annual report of the matron with the accompanying record of the fiscal year ending June 30, 1887.

I have, with the assistance of the pharmacist, Joseph A. Horigan, gone over in detail the various items of expenditure and find them to correspond with the vouchers therefor.

I hope these returns may prove satisfactory to you.

Respectfully,

P. J. MURPHY,
Surgeon in Charge.

COLUMBIA HOSPITAL FOR WOMEN, ETC.,
Washington, D. C., October 15, 1887.

To the Board of Directors, Columbia Hospital, Washington, D. C.:

GENTLEMEN: In addition to my annual report dated September 1, 1887, already submitted to you, I have the honor to present the following supplemental report of receipts and expenditures on account of Columbia Hospital during the fiscal year ending June 30, 1887.

The act of Congress approved March 3, 1887, making appropriations for the expenses of the government of the District of Columbia, has, under the head of "Charities," the following:

For the support and maintenance of the Columbia Hospital for Women and Lying-in Asylum, \$15,000.

This act further provides as follows:

The several institutions included under the heads of asylums, reformatories, industrial schools, and charities, named in this act, shall report to the Commissioners of the District, on or before the 1st day of December next, a full and detailed account of receipts and expenditures and all their operations, and the said Commissioners shall transmit the same to Congress with a report as to what legislation is necessary to provide the District with proper institutions of this character.

In compliance with the terms of this law, the following statement of receipts and disbursements on account of Columbia Hospital for Women, etc., during the fiscal year ending June 30, 1887, is respectfully submitted:

(1) RECEIPTS.

By amount appropriated by the act of Congress, approved July 9, 1886...	\$15,000.00
By balance on hand from pay-patient fund, July 1, 1886.....	2,740.93
By amount received from pay patients during the fiscal year ending June 30, 1887.....	5,634.00
Total receipts.....	23,374.93

(2) EXPENDITURES.

Items.	U. S. appropriation.	Pay-patient fund.	Total.
Salaries	\$2,600.00	\$130.00	\$2,730.00
Pay-rolls, services, and nurses, attendants	3,052.00		3,052.00
Marketing	1,275.71		1,275.71
Use of telephone	80.00		80.00
Gas	308.86		308.86
Fuel and forage	1,029.04	5.75	1,034.79
Ice	217.16	4.41	221.57
Groceries and provisions	4,338.28	212.23	4,550.51
Improvements, repairs, furniture, housekeeping supplies	1,402.37	408.19	1,810.56
Books, journals, stationery, and printing	199.46	24.55	224.01
Medical and surgical supplies	497.12	135.14	632.26
Fire insurance on furniture		51.25	51.25
Incidentals		331.98	331.98
Total expended.....	15,000.60	1,303.50	16,303.50
Balance on hand		7,071.43	7,041.43
Total	15,000.00	8,374.93	23,374.93

The balance, the accumulation of some years, has been applied, since July 1, to repairs and improvements absolutely necessary, and by January 1, 1888, the pay-patient fund will be entirely expended.

450 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

SUMMARY.

Receipts:	
United States appropriations.....	\$15,000.00
Pay-patient fund.....	8,374.93
Total	<u>23,374.93</u>
Expenditures:	
United States appropriations	15,000.00
Pay-patient fund.....	1,303.50
Total	<u>16,303.50</u>

As stated in the foregoing, the balance, \$7,071.43, is now being applied to absolutely necessary repairs and improvements, and by January 1, 1888, will be entirely expended.

Very respectfully, your obedient servant,

JOHN M. WILSON,
Treasurer Columbia Hospital.

E.—REPORT OF THE WOMEN'S CHRISTIAN ASSOCIATION FOR FISCAL YEAR ENDED JUNE 30, 1887.

3. Where are buildings located? 1719 Thirteenth street, northwest.
4. Estimated value of buildings and grounds? Fifty thousand dollars.
5. Capacity of buildings. When furnished as contemplated, 62.
6. Number of inmates received during the fiscal year ended June 30, 1887. One hundred and fifty-seven persons.
7. Daily average number of inmates during said fiscal year? Sixty-two.
8. Full number of employes, and amount paid them? Four employes paid from Government appropriation, \$67 per month; five employes, paid from private funds, \$49 per month.

MRS. THOS. WILSON,
Secretary, 1218 Connecticut avenue.

Report of the treasurer of the Women's Christian Association, Washington, D. C., for the fiscal year ending June 30, 1887.

RECEIPTS.

Amount received from Government appropriation.....	\$4,000.00
Amount received from other sources, as follows:	
From board.....	\$2,134.06
From dues and fines.....	146.70
From donations from churches and individuals.....	253.29
From admission fee.....	100.00
From borrowed money repaid.....	50.00
From proceeds of entertainment.....	47.50
From miscellaneous.....	6.05
Balance of private funds on hand June 30, 1886.....	<u>1,241.02</u>
Total receipts.....	<u>3,978.62</u>
Total expenses.....	<u>7,978.62</u>
Balance on hand June 30, 1887.....	<u>5,980.80</u>
Accounted for as follows:	
Balance in hands of U. S. Treasurer	1,997.82
Balance of private funds.....	<u>1,997.82</u>
	<u>1,997.82</u>

Report of the treasurer of the Women's Christian Association, etc—Continued.

EXPENDITURES.

Table and other household expenses.....	\$2, 997. 79
Salaries and wages.....	1, 453. 00
Fuel.....	437. 00
Gas.....	88. 05
Out-door relief.....	260. 00
House repair.....	45. 22
Stone wall (in part).....	250. 00
House-furnishing.....	186. 07
Clothing.....	27. 74
Drugs and medicines.....	70. 70
Funeral expenses.....	55. 72
Ice.....	13. 86
Insurance on building.....	40. 00
Printing annual report and vouchers.....	41. 25
Excursion for children of Foster Home.....	3. 00
Miscellaneous.....	11. 40
	5, 980. 80

WASHINGTON, D. C., August 15, 1887.

GENTLEMEN: I am in receipt of a communication from your office, directed to the president of the Women's Christian Association, which calls for a report on or before September 1, 1887, of the receipts and expenses of our association for the fiscal year 1887; also a report of "all our operations."

The first part of this report falls clearly within my province, and you will find it herewith (pages 1 and 2). As to the second, I have to say that as the president and many of the board of managers are out of town I have, with the able assistance of Mrs. S. P. French, chairman of the home committee, prepared a brief report of some of "our operations," to which the board may wish me to add something after its meeting on the first Tuesday in October.

The work of the Women's Christian Association is of many kinds.

(1) A class of women who have outlived their ability to care for themselves find here a resting place in their declining years. Our regulations admit of six old ladies for life, and applications are ever ready to fill vacancies as they occur.

(2) Other old ladies are here, paying a small sum monthly, furnished by their friends or church.

(3) But this is by no means an old ladies home, for many young and middle-aged women find here a temporary shelter and home, paying a small amount if able. The estimated average per month is \$7 for room and board, while not one-half pay anything except as they are expected to render some equivalent in service. Many who are out of service places are among this number.

(4) But it is hard to find a place for a woman with a young child. Having come here in distress—no home, no friends, and nowhere to lay their heads, they are taken in and cared for as long as is necessary. Many women of differing needs are brought here by the city officers and have always been taken in and cared for, yet the appropriation for this institution is less than for other charities.

(5) Not the least of our work is done by a committee of long experience in such matters, who visit poor families about the city and give thrilling accounts of the condition in which many are found. From \$20 to \$30 per month is allowed this committee, and many a distressed family is relieved by a share of this pittance.

Our work of all kinds is entirely unsectarian.

The work of caring for from thirty to forty children, mostly half-orphans, which has occupied one-half of our building, we have decided to discontinue, as it was not included in the plan of those who founded the institution, and as in our opinion such children need to be given a practical education which will fit them to earn their own living. A school for this purpose it is not within our resources to provide, and as soon as other homes can be found for all of them (except perhaps a few who are our wards) the room, money, and labor heretofore given to the Foster Home will be devoted to adults.

The building of the stone wall mentioned in expenditures was rendered necessary by the cutting down of an alley in rear of our premises and in such close proximity to our building as to endanger its future stability. (The amount paid in fiscal year 1887 was \$250. The balance, \$407.40, has been paid from our private funds during July, 1887.) This alley was cut down by Mr. —, the owner of the property adjoining ours on the east, and, as we understand from him, was by permission of the Commissioners. We would therefore respectfully request that the amount (\$657.40) may be included in your estimate for the ensuing year, that we may be reimbursed for this large expenditure.

The bills for expenses incurred in June have formerly been paid from Government funds, when the amount of our appropriation was \$5,000. This year they could not be, which, added to the disbursements for the stone wall above mentioned, have largely reduced our private funds, bringing them down to a little over \$1,000. This does not appear from my report (pages 1 and 2), ending as it does with June 30, instead of July 18, at which date the payments for work done and materials furnished during fiscal year 1887 were about completed. The change of work from half children to wholly adult will largely increase our expenses in certain directions for the coming year.

In view of all these facts we would pray you that the amount of the appropriation for the fiscal year 1888 be restored to its former figure—\$5,000—with the addition of \$657.40 on account of building the stone wall (page 6).

Very respectfully,

DELIA A. FREEMAN,
Treasurer W. C. A.

Address Mrs. Nathaniel Freeman, 914 French street, city.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

F.—REPORT OF THE NATIONAL ASSOCIATION FOR THE RELIEF OF DESTITUTE COLORED WOMEN AND CHILDREN.

WASHINGTON, D. C., *September 1, 1887.*

GENTLEMEN: In compliance with your request that the National Association for the Relief of Destitute Colored Women and Children shall furnish a full and detailed statement of the operations of their office for the year ended June 30, 1887, I submit the following, including the report of the treasurer:

The institution was established for the purpose of providing a home, food, clothing, and instruction for as many destitute colored children and aged and indigent colored women as the means of the association will permit.

It has no real or permanent source of income, except the annual appropriation made by Congress. As will be seen by reference to the accompanying annual report, the amount of appropriation, \$6,500, when divided by the actual number of inmates, allows a fraction less than 15 cents per day for each individual, a sum not sufficient for their support.

The treasurer's report shows that the expenditures for the year have been \$583.16 in excess of the receipts; the private fund having furnished (exclusive of the cost of lots purchased) \$953.51. But the largest of the sums which contribute to the formation of what is called the private fund are the payments on an overdue note, and when in the course of one or two years the entire amount shall have been paid there will remain only the membership fees and voluntary contributions, both of which vary each year and can not be counted upon with any degree of certainty.

To these facts it may be added that the matron is obliged, almost daily, to turn away suffering and needy persons who might be sheltered and cared for if there were means to provide them with food and clothing. An appropriation of \$8,000 would enable the managers to fill the building to its entire capacity, because many items of expense, such as fuel, lights, repairs, plumbing, etc., would remain the same, and others—salaries and wages, etc.—would not be materially increased.

Upon these considerations the managers feel justified in making an earnest appeal to the Commissioners for the support of their recommendation to the petition of the association for a larger appropriation.

All interested in the Home have followed with deep interest the inquiries of the Commissioners concerning the sewer near Eighth street, above Northern Boundary, and hope that they will so construe their powers as to abate as a public nuisance what must be injurious to the health of all who by their vicinity are forced to breathe the foul odors arising from it.

4. Estimated value of buildings and grounds, \$50,000.
5. Capacity of buildings, 125 children and 10 old women.
6. Number of inmates received during the fiscal year ended June 30, 1887, 31.
7. Daily average number of inmates during said fiscal year, $108\frac{5}{73}$.
8. Number of employes and amount paid them, 15—\$2,263.35.

Respectfully submitted,

HELEN A. COOE,
Secretary.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Receipts and expenditures of the National Association for the Relief of Destitute Colored Women and Children during the fiscal year ended June 30, 1887.

RECEIPTS.

	Amount.		Amount.
General appropriation (Congress)	\$6, 500. 00	Donations	\$156. 70
Appropriation (Congress) for heating, furnishing, and improving grounds..	2, 500. 00	Membership fees	42. 00
Payment of debt to association	1, 239. 21	Sale of rags.....	7. 69
Payments for board.....	177. 50		10, 623. 10

454 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Receipts and expenditures of the National Association for the relief of Destitute Colored Women and Children, etc.—Continued.

EXPENDITURES.

	General appropria- tion.	Heating, furnish- ing, etc.	Private fund.	Total.
Salaries and wages.....	\$2,263.35			\$2,263.35
Matron's current expenses.....	233.74		\$6.26	240.00
Groceries.....	801.37		131.47	932.84
Meat.....	642.90		216.16	859.06
Bread.....	606.59		125.57	732.56
Milk.....	424.36		87.63	511.99
Coal.....	575.97		156.65	732.62
Clothing.....	301.05		5.52	306.57
Shoes and mending.....	201.11		68.25	269.36
Hats.....	2.50			2.50
Medicines.....	57.55		3.00	60.55
Land.....			1,230.25	1,230.25
Search of title and deed.....			20.00	20.00
Recording deeds.....			2.50	2.50
Furnaces.....		\$868.00		868.00
Repairing furnaces.....		212.70		212.70
Fencing.....		276.00		276.00
Lumber.....		55.57		55.57
Hardware.....	20.90	92.41	36.50	149.81
Carpentry.....	75.38	143.82	5.00	224.20
Plumbing and repairing pumps.....	89.35	196.60		285.95
Repairing roofs and chimneys.....	33.00			33.00
Whitewashing and plastering.....	35.00			35.00
Surveying.....		7.50		7.50
Furniture.....		171.77	.50	172.27
Tables.....		27.50		27.50
Chairs.....		3.00		3.00
Sewing-machine.....		35.00		35.00
Bed-spreads.....		100.00		100.00
Bedsteads.....		28.11		28.11
Iron beds.....		69.00		69.00
Boilers.....		20.80		20.80
Gas-stove and hose.....		2.10		2.10
Gas fixtures.....		55.25		55.25
Kitchen utensils.....		7.46		7.46
Picture frames.....		7.00		7.00
Hospital bedding.....		30.41		30.41
Rubber cloth.....	4.20			4.20
Yarn.....	9.12			9.12
Printing.....	33.00		1.50	34.50
Advertising.....			7.65	7.65
Books and stationery.....	20.76			20.76
Insurance.....			46.85	46.85
Window shutters, etc.....			7.80	7.80
Traveling expenses.....			7.50	7.50
Gas.....	32.73		24.76	57.49
Cane-seating chairs.....	3.60			3.60
Oil for floors.....	3.60			3.60
Felt pitch.....			8.96	8.96
Seeds.....			5.58	5.58
Manure.....	28.87			28.87
Sewer.....		90.00		90.00
	6,500.00	2,500.00	2,206.26	11,206.26

Total expenditures..... \$11,206.26
Total receipts..... 10,623.10
Expenditures exceed receipts..... 583.16

LUCY S. DOOLITTLE,
Treasurer.

G.—REPORT OF ST. ANN'S INFANT ASYLUM.

WASHINGTON, D. C., November 11, 1887.

GENTLEMEN: In reply to your inquiry for information in regard to St. Ann's Infant Asylum, I have the honor to submit the following statement:

1. The institution is a body corporate under the name of "St. Ann's Infant Asylum," and its purposes are two-fold: (1) To provide for the support and maintenance of foundlings and orphan children; (2) to provide for deserving indigent and unprotected females during their term of confinement.

2. The institution exists under an act of incorporation passed by the Congress of the United States on March 3, 1863 (12 Statutes, 798).

3. The buildings of the institution, which are situated in square No. 39, in the city of Washington, at the intersection of New Hampshire avenue, K street, and Twenty-fourth street, are of the estimated value of about \$45,000.

4. It has capacity for the accommodation of 85 children. It is now, and nearly always is, full. This number does not include infants out at nurse, of whom there are at present 25. Full use is made of the whole capacity of the building for the corporate purposes of the institution, and for such purposes only.

5. During the fiscal year ending June 30, 1887, the daily average number of inmates was 110.

6. The average amount of compensation paid to employés is about \$650. This does not include any paid to wet nurses outside of the asylum, which, for the present year, has amounted to \$2,525.

7. A detailed statement of the receipts and disbursements of the institution, together with the vouchers, has been filed, and is annually filed, in the Treasury Department, in the First Auditor's Office.

The receipts average from \$4,000 to \$4,200, exclusive of the appropriation of \$5,000 by Congress. The expenditures average from \$10,500 to \$11,500. The deficiencies are usually made up from occasional donations and legacies to the institution.

ST. ANN'S INFANT ASYLUM,
By SISTER ELIZABETH RELIHAN,
President.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Appropriation St. Ann's Infant Asylum, June 30, 1886, to June 30, 1887.....	\$5, 000. 00
Employés for wet-nursing	2, 525. 00
Meat bill	906. 12
Grocery bill	517. 26
Vegetable bill	163. 12
Bread bill	303. 45
Butter bill	58. 87
Coal bill.....	526. 18
	5, 000. 00

H.—THE CHILDREN'S HOSPITAL OF THE DISTRICT OF COLUMBIA.

CHILDREN'S HOSPITAL,
Washington, D. C., November 29, 1887.

GENTLEMEN: In answer to your last communication, requesting a full and detailed account of receipts and expenditures and all the operations of the Children's Hospital, I have the honor to inclose herewith the following report.

Very respectfully,

M. W. GALT,
Vice-President.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

1. The corporate name of the institution is "The Children's Hospital of the District of Columbia." Its purpose is (charter) "the gratuitous medical and surgical treatment of indigent children under the age of twelve years, without distinction of race, sex, or creed."

2. Charter is recorded in the office of the Recorder of Deeds for the District of Columbia, on the 2d day of December, 1870. Amended certificate recorded in same office June 24, 1884.

3. The buildings are located in square 272, bounded by V and W, Twelfth and Thirteenth streets northwest, in the city of Washington, District aforesaid.

4. The estimated value of buildings and grounds is \$80,000.

5. Capacity of buildings, 60 in regular white and colored ward, 15 in isolated and special wards.

6. The number of inmates received during the fiscal year ended June 30, 1887, was 182.

7. The daily average number of inmates during said fiscal year was 47.

8. The number of employes is 17, and the amount paid them during said fiscal year was \$3,563.

9. (a) Receipts of the Children's Hospital for the fiscal year ending June 30, 1887:

From contributions and endowments	\$6,795.25
From District of Columbia	5,000.00
Total.....	11,795.25

Receipts and expenditures of the Children's Hospital for the fiscal year ending June 30, 1887.

RECEIPTS.

From contributions and endowments	\$6,795.25
From District of Columbia	5,000.00
Total.....	11,795.25

EXPENDITURES.

Pay-roll	\$3,563.00
Groceries, marketing, and ice	2,269.53
Bread.....	409.81
Milk	828.00
Furniture	298.71
Improvements and repairs.....	1,272.83
Medicines, surgical instruments, etc	583.41

Receipts and expenditures of Children's Hospital, etc.—Continued.

Stationery, printing, and postage.....	\$234.21
Gas.....	224.92
Fuel.....	879.07
Interest on indebtedness.....	115.00
Not classified	140.45
	10,818.94

W. S. THOMPSON,
Treasurer.

AUGUST 18, 1887.

I.—CHURCH ORPHANAGE ASSOCIATION OF ST. JOHN'S PARISH.

1. Church Orphanage Association of St. John's Parish, Washington, D. C., and the purposes of the institution are to establish and maintain one or more houses for such indigent orphan or half orphan children, or other children left in a destitute and impoverished state and condition as it may receive and have under its care, and to educate such children; to establish and maintain one or more dispensaries or other institutions for the shelter, support, and relief of such sick or infirm children as it may receive under its care, or otherwise minister to; and to establish and maintain such other institutions for charitable or reformatory uses as may be determined upon by the board of trustees.

2. The certificate of incorporation is dated April 25, 1882, and is recorded in liber Acts of Incorporations No. 3, folio 235 *et seq.*, for the District of Columbia.

3. No. 525 Twentieth street northwest, Washington City, D. C.

4. The building of the association is valued at about \$25,000.

5. It will accommodate about seventy people comfortably.

6. Fifteen inmates were received during last fiscal year.

7. Sixty-five was the daily average of inmates.

8. Four employés; wages, \$45 per month.

9. The receipts and expenditures of the Church Orphanage Association of St. John's Parish for the year ending June 30, 1887, were as follows:

RECEIPTS.

Balance as per statement June 30, 1886.....	\$451.28
Received from Congress.....	1,500.00
Voluntary contributions from regular subscribers and other friends	1,930.50
	3,881.78

EXPENDITURES.

Dry goods, \$53.36; shoes, \$91.55.....	144.91
Bread, \$91.40; groceries, \$298.73	390.13
Glassware, \$23.15; drugs, \$17.65	40.80
Gas, \$39.71; insurance, \$42.50	82.21
Meat	546.52
Milk, butter, and eggs.....	388.83
Coal.....	165.15
Rent of house, country home	136.75
Repairs.....	118.23
Stationery, etc.....	42.83
Wages.....	450.00
Flour.....	139.98
	2,666.34
Balance on hand June 30, 1887.....	1,215.44

A new wing has just been added to the orphanage, which, with other necessary improvements, will cost above \$8,000. This addition will, of course, increase our expenses.

Your especial attention is called to the economical management of this institution.

THOS. HYDE,
Treasurer Church Orphanage Association.

NOVEMBER 8, 1887.

J.—REPORT OF THE WASHINGTON HOSPITAL FOR FOUNDLINGS.

WASHINGTON, D. C., November 23, 1887.

GENTLEMEN: The Board of Directors have the honor to transmit herein a report of the Washington Hospital for Foundlings, as required by act of Congress approved July 5, 1884, for the year ending June 30, 1887.

The Washington Hospital for Foundlings, situated on Fifteenth street, between R and S streets (No. 1715 Fifteenth street northwest), was opened for the reception of children January 4, 1887.

The value of the buildings and grounds was estimated, December 1, 1886, as follows:

38,220 feet of ground fronting on Fifteenth street west, between R and S streets north, at the estimated value of \$1 per foot.....	\$38,220
Improvements on grounds.....	25,000
Total	63,220

CAPACITY OF BUILDING.

Fifty children (babes) can be accommodated, but all the attendants necessary for the care of the same could not be accommodated in the building.

The accommodations at the above date were limited to eleven cribs, furnished by the ladies of the board of management.

Within the period of six months from January 4 to June 30, 1887, the number of children received has been 20; 2 adopted, 7 died.

A daily average of inmates would be difficult to give.

The children were received as follows:

In the 27 days of January	3
In the 28 days of February	7
In the 31 days of March	
In the 30 days of April	
In the 31 days of May	5
In the 30 days of June	5
Total	20

The number of employés: Matron, janitor, cook, laundress, housemaid, head nurse, nurses, 4; total 10.

Amount paid to employés:

	Per month.
Matron	\$30.00
Janitor	20.00
Cook	10.00
Laundress	10.00
Housemaid	6.00
Head nurse	15.00
Nurses (average)	10.00
	121.00

In the act making appropriations for the support of the District for the fiscal year ending June 30, 1887, approved July, 1886, the sum of \$3,500 was appropriated out of the revenues of the District of Columbia for completion of the hospital building.

This appropriation of \$3,500, together with other funds, has been expended as the following statement indicates:

RECEIPTS.

1886.		
July 1,	Cash balance	\$2,623.11
	United States appropriation	3,500.00
	Membership dues and private contributions	1,449.85
	Proceeds of "Tea"	567.00
	A. C. Clark, tax certificate	74.55
		8,214.51

EXPENDITURES.

Construction:		
	Contract (R. I. Fleming)	5,154.50
	Lumber (Willett & Libbey)	261.89
	Materials and labor (Geo. C. Hough)	215.00
	Inclosing lot and porch (J. P. Klinge)	150.25
		5,781.64

Maintenance:

	Salary and wages	\$778.67
	Groceries, provisions, and milk	417.09
	Coal	223.40
	Gas	538.8
	Medicine	105.56
	Furniture, crockery, and hardware	85.24
	Dry goods and rubber goods	159.65
	Printing, advertising, and stationery	154.80
	Insurance, safe-deposit rent	57.40
	Credit from endowments of C. Baum and Mrs. W. H. Lamon	370.50
	Purchase of chickens	9.20
	Repairs	16.03
	Sundry items	16.66
		2 433.05
		8,214.69

The average cost for maintenance for the last four months has been about 50 cents per day. This average will be greatly reduced within the current year.

It is confidently expected that during the current year the building will be filled to its present limit, 50 children. The cost of maintenance, not including cost of additional furniture, beds, bedding, etc., insurance, and repairs, will be about \$7,000.

The building is scantily furnished, and for further equipment to accommodate the increasing number of children a considerable expenditure of means will be required. It is hoped that these expenses will be met from voluntary contributions.

For the maintenance of the institution, it is asked that not less than \$7,000 be appropriated for the fiscal year ending June 30, 1889.

In behalf of the board of directors, very respectfully,

HAIDEE WILLIAMSON,
Secretary.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

K.—REPORT OF ST. ROSE INDUSTRIAL SCHOOL.

The St. Rose Industrial School is situated on G street, between Twentieth and Twenty-first streets. The building has a frontage of 69 feet and a depth of 108 feet; is four stories high. The building is worth \$38,000; ground, \$4,599. The object of the institution is to care for young orphan girls of advanced years, aged from twelve years to eighteen years, at which time they need most a mother's care and protection. They are all taught useful trades, according to their talent, such as dress-making, fine sewing of all kinds, with the addition of a training kitchen, where those who have no capacity for sewing are taught all kinds of cooking; others are trained for house girls and maids. After they are taught, good places are found for them, where they can make an independent living for themselves.

The number of girls sent out during the past year are 20; received, 15; death, 1; returned to the institution, 1.

No compensation is paid to any one; Sisters and children work together in order to keep the institution going and to support themselves. The school receives nothing from the District, nor from any other source whatever, towards its support. The number of pupils in the school at present are seventy-five.

Yours, respectfully,

SISTER CLARA.

To the COMMISSIONERS:

Our institution is supported from the work done by the Sisters and children. Workings of the school are dress-making and fine sewing, with an addition during this year of a training kitchen.

The appropriation received last year from Congress for addition to building was paid out for same to Mr. H. M. Dellinger, builder.

Sister CLARA,

Superior St. Rose Industrial School.

JULY 23, 1887.

L.—REPORT OF HOME OF THE GOOD SHEPHERD.

WASHINGTON, August 9, 1887.

RESPECTED SIR: I am happy to comply with your request to furnish you an account of the expenditures of our institution during the past year; if I understand properly, you wish it from June, 1886, to June, 1887. Our income in that time, including a few small donations, has been about \$2,314.96. The above-mentioned small donations have helped us to keep within our income. We number at present 33 inmates; that has been our average number during the year. The total number of inmates received in the home since we opened, August, 1884, has been about 111.

Hoping this report will prove satisfactory,
Very respectfully,

Mr. W. S. MATHEWS.

Sister M. MARTIN.

To the COMMISSIONERS OF THE DISTRICT OF COLUMBIA :

I hereby submit report respecting operations, etc., of the House of the Good Shepherd.

House of the Good Shepherd ; its object, reformation of young girls. Charter is recorded in the recorder's office, District of Columbia.

Location, 1017 Ninth street, between Massachusetts avenue and L street

Estimated value of building and grounds, about \$28,000.

Capacity of buildings, 30 with comfort.

Daily average number of inmates during said year, 33.

Number of employés, none.

Received from Government in full \$8,000, for enlargement of building ; not yet made use of.

Respectfully,

Sister M. MARTIN.

M.—REPORT OF ASSOCIATION FOR WORKS OF MERCY.

WASHINGTON, D. C., November 22, 1887.

GENTLEMEN: We have the honor to report that the Association for Works of Mercy, Washington, D. C., has for its object works of mercy, reformatory and preventive.

The record of the charter of the association can be found in liber 3, folio 375, *et seq.*, Acts of Incorporation for the District of Columbia.

The association owns the premises 2408 K street, where is maintained a home for fallen women, known as the House of Mercy. The value of this property, building and grounds, is estimated to be \$15,500. The home has a capacity for 20 inmates. The number of inmates received into the home during the fiscal year ending June 30, 1887, was 20, the daily average number being 12; the number of employés is 3; and the amount paid for salaries during the fiscal year was \$263.43.

Herewith inclosed is a statement of the amounts received and disbursed by the treasurer of the association during the fiscal year ending June 30, 1887.

The report of lady in charge of the House of Mercy for the last fiscal year was forwarded to the Commissioners on September 20, 1887.

Very respectfully, etc.,

C. C. AUGUR,

W. H. HOEKE,

CHAS. G. SAWTELLE,

Executive Committee of the Board of Trustees.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

WASHINGTON, D. C., November 15, 1887.

John Sherman, treasurer, in account with Association for Works of Mercy.

1886.		
June 30.	Balance	\$233. 48
Aug. 3.	Cash received through Miss Talcott	6. 00
	3. Cash subscribed	10. 00
	25. Cash received through Senator Edmunds	5. 20
Sept. 7.	Cash received through Mrs. Alexander	7. 00
	13. Cash received through Mrs. Edmunds	11. 00
	14. Cash received through Miss Talcott	3. 00
Oct. 12.	Cash received through Mrs. Hoke	42. 75
	25. Cash received through Colonel Bates	7. 00
Nov. 6.	Cash received—note to E. Godey	600. 00
	6. Cash received—appropriation from Congress	5,000. 00
	9. Cash received through Mrs. Hoke	89. 75

462 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

John Sherman, treasurer, in account with Association for Works of Mercy—Continued.

1886.		
Nov.	18.	Cash received through Mrs. Edmunds..... \$13. 95
Dec.	1.	Cash received through Mrs. Edmunds..... 53. 50
	16.	Cash received through Mrs. Edmunds..... 107. 55
	16.	Cash received through Miss Talcott..... 25. 00
	21.	Cash received through Mrs. Edmunds..... 15. 00
1887.		
Jan.	12.	Cash received through Mrs. Edmunds..... 161. 10
Feb.	2.	Check of J. M. Forbes..... 500. 00
	19.	Cash through Mrs. Edmunds..... 174. 86
Mar.	15.	Cash through F. H. Bates..... 7. 00
	16.	Cash through Mrs. Edmunds..... 113. 70
	19.	Cash through Mrs. Edmunds..... 226. 00
Apr.	12.	Cash through Mrs. Edmunds..... 228. 55
	27.	Cash through Mrs. Edmunds..... 44. 75
May	9.	Cash through Mrs. Hagner..... 11. 00
	10.	Cash through Miss Strong..... 160. 84
	10.	Cash through Miss Strong..... 4. 00
	13.	Cash through Miss Strong..... 248. 59
June	9.	Cash through Miss Strong..... 39. 50
	21.	Cash through Miss Strong..... 103. 50
Amount receipts from June 30, 1886, to July 1, 1887.....		8, 253. 57
1886.		
July	3.	By gas bill..... 3. 60
	19.	Check to Miss Talcott, expenses..... 100. 00
Aug.	3.	Check to Miss Talcott, expenses..... 100. 00
	3.	Subscription paid, expenses..... 10. 00
	3.	Gas bill..... 3. 00
Sept.	1.	Gas bill..... 1. 95
	11.	Cash to Miss Talcott, expenses..... 100. 00
Oct.	1.	Cash, gas bill..... .45
	15.	Cash, Miss Talcott..... 100. 00
Nov.	6.	Cash paid on note No. 1, Godey..... 1, 000. 00
	6.	Cash paid, interest on note No. 1, Godey..... 37. 50
	6.	Cash paid on note No. 2, Godey..... 3, 000. 00
	6.	Cash paid, interest on note No. 2, Godey..... 87. 50
	6.	Cash paid on note No. 3, Godey..... 725. 00
	6.	Cash paid, interest on notes 3 and 4..... 150. 00
	8.	Cash paid one month, watchman..... 25. 00
	8.	Cash paid Rhodes & Simms for repairs..... 183. 00
	8.	Cash paid Rhodes & Simms for repairs..... 42. 60
Nov.	8.	Cash paid Hall & Bro., repairs..... 42. 00
	8.	Cash paid W. B. Muller & Co..... 52. 75
	9.	Cash paid James Lockhead..... 172. 00
	15.	Cash paid Mrs. Hoke, expenses..... 50. 00
Dec.	16.	Cash paid Mrs. Edmunds, expenses..... 100. 00
	16.	Cash paid to watchman..... 25. 00
	21.	Cash paid Mrs. Edmunds, expenses..... 22. 55
1887.		
Jan.	12.	Cash paid Mrs. Edmunds, expenses..... 100. 00
	12.	Cash paid Hayward & Hutchinson, repairs..... 2. 40
	12.	Cash paid, gas bill..... 5. 38
Feb.	3.	Cash paid Mrs. Edmunds, expenses..... 14. 00
	7.	Cash paid, gas bill..... 6. 63
	19.	Cash paid Mrs. Edmunds, expenses..... 100. 00
Mar.	16.	Cash paid Mrs. Edmunds, expenses..... 100. 00
	16.	Cash paid, bill repairs..... 14. 75
	19.	Cash paid Mrs. Edmunds, expenses..... 50. 00
	19.	Cash paid Godey, note..... 600. 00
Apr.	12.	Cash paid interest on above..... 13. 90
	12.	Cash paid Mrs. Edmunds..... 100. 00
May	6.	Cash paid, advertising..... 4. 00
	10.	Cash paid Adams, printing reports..... 33. 00
	10.	Cash paid, printing postals..... 4. 00
June	8.	Cash paid Miss Strong, expenses..... 100. 00
	9.	Cash paid, bill repairs, G. Y. Hansell..... 6. 15
	21.	Cash paid Miss Strong, expenses..... 100. 00
		55. 00

N.—REPORT OF NATIONAL HOMEOPATHIC HOSPITAL.

Receipts and expenditures of the National Homeopathic Hospital for the year ending June 30, 1887.

RECEIPTS.

Hospital patients	\$2, 038. 50
Ladies' Aid Association	4, 500. 00
Donations	1, 023. 80
Membership dues	195. 00
Miscellaneous items	63. 04
Loan on property	3, 000. 00
Congress, appropriation	5, 000. 00
Total receipts	<u>15, 820. 34</u>

EXPENDITURES.

Maintenance, such as salaries, provisions, gas, fuel, etc	5, 565. 64
Furniture and hospital appliance	1, 195. 28
Miscellaneous items	751. 76
Construction, repairs, etc	8, 226. 10
Total expenditures	<u>15, 738. 78</u>
Balance on hand	81. 56

2. Charter is recorded in clerk's office, District court.
3. Located corner Second and N streets northwest.
4. Estimated value, \$75,000.
5. Daily average, 13.
6. Capacity of buildings, 40 patients.
7. Number received, 89; number discharged, 81.
8. Number of employes, 11; amount paid them, \$2,544.

ELIAS S. HUTCHINSON,
President Board of Trustees.

NOVEMBER 21, 1887.

O.—REPORT OF CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.

WASHINGTON, D. C., *November 14, 1887.*

SIR: In reply to your communication, No. 32,806, and in answer to the questions therein contained, I write the following:

1. The name of the institution is the Central Dispensary and Emergency Hospital. Its object is twofold. First, to prescribe for and furnish medicines to the sick and injured poor who are unable to pay for the same. On certain days during the week different diseases are treated by specialists, and there is at all times a physician ready to treat or prescribe for, and to furnish medicine and apparatus to, any one in need of medical assistance. Second, there is a room used in emergency cases, where all persons receiving injuries, from accidents on the streets or elsewhere, can be kept and attended to until well enough to be moved.

2. Recorded in Acts of Incorporation, No. 4, folio 126.

3. The building is situated on Twelfth street, near F, and is known as No. 521 Twelfth street northwest.

4. The building and the ground attached are valued at about \$15,000.

5. The building contains nineteen rooms; basement, three, kitchen and servants' room, and a small lumber room; first floor, five, office or sitting room, room for emergency cases, drug room, and small waiting room; second floor, five rooms, used by the different physicians for their services and as waiting rooms for the patients; third and fourth floors, three rooms each, used by the resident physicians and the servants as sleeping apartments.

6. There are no regular inmates, except in emergency cases, and they only remain there when they are too ill to be moved. The daily average, Sundays excepted, when no services are held, is about 50; and the average number of prescriptions daily dispensed is 63.

7. During the year beginning April 1, 1886, and ending April 1, 1887, there were 5,576 patients treated, and 16,822 prescriptions dispensed. The number of house patients was 17, who remained altogether 161 days in the house. Since April 1, 1887, 4,448 new patients have been treated, showing an average increase of about 95 new patients per month.

8. The employes are: A resident physician, salary, \$25 and board per month; an assistant resident physician, no salary, board; a resident medical student, no salary or board, only lodging; a druggist, \$25 a month salary; a janitress and her assistant, a joint salary of \$37 a month.

I trust these answers will give you a good idea of the work that is being done at this institution, and if you need any further information I shall be most happy to furnish it.

Very respectfully, yours,

H. RANDALL WEBB,
Secretary.

Hon. WILLIAM B. WEBB,
President of the Board of Commissioners.

WASHINGTON, D. C., November 21, 1887.

SIR: In reply to your communication, No. 32853, asking for a statement of the receipts and expenditures of the "Central Dispensary and Emergency Hospital" during the last fiscal year, I have the following to report:

Receipts and expenses for year ending April, 1887.

Voluntary contributions.....	\$629. 33
District allowance.....	2, 400. 00
Other sources.....	91. 00
Balance from former year.....	903. 03
	4, 023. 36

EXPENSES.

Salaries.....	\$1, 476. 02
Drugs.....	896. 58
Rent.....	660. 00
Fuel.....	107. 51
Printing.....	114. 75
Interest on bonds.....	137. 50
Sundries.....	196. 96

Receipts and expenses for the year ending April, 1887—Continued.

Galvanic battery	\$52.50
House patients	73.90
Book-case	20.00
	3,735.72
Total receipts	4,023.36
Total expenses	3,735.72
Balance in treasury	287.6

Very respectfully, yours,

H. RANDALL WEBB,
Secretary.

P.—REPORT OF THE WOMAN'S DISPENSARY.

1306 F STREET, N. W., October 12, 1887.

GENTLEMEN: I have the honor to submit to you the inclosed report for the year ending June 30, 1887, of the work done at the "Woman's Dispensary."

Very respectfully,

JEANNETTE J. SUMNER, M. D.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

1. Name of institution and its object: Woman's Dispensary. The medical and surgical treatment of women.
2. Where is the charter recorded? Office of Recorder of Deeds.
3. Where are buildings located? Corner Maryland avenue and Four-and-a-half street, southwest.
4. Estimated value of buildings and grounds? Rented.
7. Number treated during the year, 1,910.
9. Number of employes and amount paid them? Sixty dollars a year paid towards salary of janitor.

Statement of cases treated in the Woman's Dispensary from June 30, 1886, to June 30, 1887.

Visits	1,910
Prescriptions compounded	1,991
Applications to diseased surfaces	478
New patients	667
White	85
Colored	582

NATIONALITY.

American	654
Austrian	1
Canadian	2
English	1
German	5
Irish	3
Swede	1

CIVIL STATE.

Adult	543
Children	124
Married	347
Single	196

Statement of cases treated in the Woman's Dispensary, etc.—Continued.

MEDICAL.

Asthma	1	Indigestion	55
Bronchitis	44	Infantile paralysis	2
Cephalalgia	11	Laryngitis	8
Constipation	44	Malaria	47
Congestion of liver	19	Neuralgia	4
Convulsions	1	Neurosthenia	9
Coryza	6	Pleuritis	2
Diabetes insipidus	1	Parotiditis	2
Diarrhea	11	Rheumatism	30
Dyspepsia	37	Scarlatina	1
Dysentery	1	Tinea tonsurans	2
Enteritis	2	Tonsillitis	11
Enuresis	4	Ulcerated throat	2
Gastric catarrh	1	Valvular disease of heart	2
Herpes circinatus	1		
Hysteria	3	Total	354

GYNÆCOLOGICAL.

Amenorrhœa	10	Pregnancy	20
Cellulitis	1	Procidencia	1
Cervix, laceration of	6	Prolapsus uteri	4
Cervix and perineum, laceration of	1	Prolapsus uteri and femoral hernia	1
Cystitis	8	Suppressio mensium	2
Cystocele and rectocele	1	Uterus, anteversion of	4
Dysmenorrhœa	23	Uterus, retroversion of	1
Endocervicitis	5	Uterus, latero-version of	1
Endometritis	7	Uterus, fibroid tumor	4
Hystero-epilepsy	1	Uterus, hemorrhage	11
Leucorrhœa	26	Uterus, polypus	1
Menopause	3	Vaginitis	1
Menorrhagia	16		
Metrorrhagia	1	Total	162
Metritis	2		

SURGICAL.

Abscess	1	Odontalgia	2
Acne	1	Onychia	2
Arthritis	1	Otorrhœa	2
Conjunctivitis	2	Scrofula	11
Eczema	10	Sprain	1
Erysipelas	1	Strain	1
Goitre	1	Syphilis	23
Gonorrhea	3	Tumor of eye-lid	1
Hemorrhoids	8	Tumor of breast	1
Hernia, femoral	2	Urticaria	1
Hernia, inguinal	1	Varices	1
Indolent ulcer of leg	6	Wound	1
Injuries	3		
Keratitis	1	Total	97
Nasal catarrh	9	Number of cases unclassified	54

Q.—THE HOMEOPATHIC FREE DISPENSARY.

WASHINGTON, D. C., November 19, 1887.

GENTLEMEN: In reply to your communication received this morning I would answer the questions as follows:

Name? The Homeopathic Free Dispensary.

Object? To furnish homeopathic medical and surgical treatment to all applicants.

Location? First floor, 709 G street, northwest.

Estimated value? The dispensary occupies three rooms, at \$20.50 a month; the furniture and stock of medicines and instruments valued at \$300.

Daily average of patients during the year? Twenty-five.

Number treated during the year? Eight thousand eight hundred and forty prescriptions were given to 2,921 patients.

Employés and amount paid them? There is one employé, a janitor, receiving \$6 a month.

A detailed statement of receipts and expenditures during the last fiscal year? In the treasurer's report appended will be found the answer to the above question.

Very respectfully,

MRS. ISABELLA M. BITTINGER,
Secretary.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Report of treasurer of Homeopathic Free Dispensary Association for fiscal year ending June 30, 1887.

Anna P. Westcott, treasurer, in account with Homeopathic Free Dispensary.

DR.

To cash received from July 1, 1886, to June 30, 1887:

Cash on hand July 1, 1886.....	\$130.18
Active members.....	35.00
Associate members.....	10.00
Annual subscriptions.....	161.00
Monthly subscriptions.....	14.50
Cash donations.....	61.62
District Commissioners, for twelve months.....	145.00
Contribution box.....	10.84
Fines for absence.....	5.10
Net proceeds of lunch for dispensary.....	81.14
Net proceeds of lectures.....	104.70
Rent of dispensary rooms for eighteen evenings.....	18.00
	777 08

CR.

By cash paid out from July 1, 1886, to June 30, 1887:

Rent.....	246.00
Medical supplies.....	165.08
Printing.....	47.63
Physician to the poor.....	69.00
Janitor and washing.....	72.00
Furniture.....	7.85
Repairs.....	7.00
Fuel.....	19.80
Stationery.....	3.12
Sundry small incidentals.....	2.61
Appropriation to pharmacist.....	25.00
Balance on hand June 30.....	111.99
	777.08

ANNA P. WESTCOTT,
Treasurer.

R.—REPORT OF THE AGED WOMEN'S HOME.

GEORGETOWN, D. C., *November 9, 1887.*

SIR: In answer to the questions contained within, I send the following answers:

1. Aged Women's Home, to take care of destitute old women.
2. It has never been chartered.
3. Located on 32d street, Georgetown, between M and N.
4. Accommodates 14.
5. The same number was daily average.
6. Two were discharged and two received.
7. No employés. We give *each* a room, and our society takes care of them.

Receipts.....	\$1,607.44
Expenditures	1,486.64
Balance	120.80

Very respectfully,

Mrs. B. W. KENNON,
Treasurer Aged Women's Home, Georgetown, D. C.

Mr. TINDALL.

S.—REPORT OF THE NIGHT LODGING HOUSE.

WASHINGTON, D. C., *November 11, 1887.*

DEAR SIR: In reply to yours of November 9, addressed to the president of the Night Lodging House, I beg to submit the following reply to your queries:

1. Night Lodging House. The business and object of the society is for the purpose of affording temporary shelter to the transient worthy poor who visit Washington for legitimate purposes.
2. Liber, Acts of Incorporation, District of Columbia, No. 2, folio 229, January 15, 1878.
3. 1305 Twelfth street southwest.
4. Sixty-five hundred dollars.
5. Fifty lodgers.
6. Twenty-five (house only open for winter months, average is based on term house is open).
7. Number of lodgers accommodated, 2,612.
8. Superintendent, at \$30 per month from December 1 to April 1, \$5 per month for rest of year. From December 1 to April 1 two men, at \$2 per week.

Yours, respectfully,

C. J. BELL,
Treasurer Night-Lodging House.

W. TINDALL, Esq.,
Secretary, City.

T.—REPORT OF THE WOMAN'S EXCHANGE.

2002 R STREET NW., November 14, 1887.

SIR: In response to your communication dated November 9 and numbered 32805, which was directed to Mrs. Rodgers, president of the Woman's Exchange, and by her referred to me for answer, I have the honor to submit the following replies to the questions as numbered in your letter:

1. The name of the organization is the Woman's Exchange, and its object is to endeavor by sympathy and practical aid to encourage and help needy women to help themselves, by procuring work for them and establishing a sales-room for the sale of woman's work.

2. The Exchange is not a chartered organization.

3 and 4. The Exchange occupies two rented rooms at No. 600 Thirteenth street northwest, and owns no property.

5. The employes are two young women employed at the rooms, who receive \$5 and \$3 per week, and an errand boy, at \$1.50 per week.

6. During the year ended November 1, 1887, the Exchange has received the work of 119 women, which has been exposed for sale in the rooms. The articles consigned are fancy work, cake, and preserves, and through the medium of the Exchange a market is provided which otherwise does not exist. The sales during the year amounted to \$3,503.09, which was paid over to the consignors, less 10 per cent.

Very respectfully,

Mrs. W. B. BRYAN,
Secretary Woman's Exchange.

Mr. W. TINDALL,
Secretary of the District Commissioners.

Report of the treasurer of the Woman's Exchange for the year ending January 1, 1887.

RECEIPTS.

Cash on hand January 1, 1886	\$255. 82
Cash from sales during the year	3, 425. 88
Cash from sewing-room	130. 33
Cash from subscribers	293. 50
Cash from active members, fees, and fines	80. 20
Cash from donations	55. 00
Cash from Woman's Christian Association	180. 00
Cash from entertainment in May	918. 72
Cash from District Commissioners	250. 00
Cash from sale of old sewing-machine	10. 00
Cash from miscellaneous	29. 92
	5, 629. 37

EXPENDED.

Paid for rent	\$815. 00
Salaries	529. 93
Advertising, printing, rules, checks, etc	28. 00
Help in sewing-room and sewing materials	22. 46
Fuel and putting away of same	34. 05
Furniture and repairs	115. 97
Stamps, postals, car-fare, etc	31. 32
Watchman	19. 50
Paper, twine, blank books, etc	30. 47
Miscellaneous	10. 90
Consignors	3, 428. 39
Cash on hand June 1, 1887	563. 38
	5, 629. 37

KATE BRADLEY,
Treasurer.



S.

REPORT OF THE OPERATIONS OF ENGINEER DEPARTMENT,

UNDER THE DIRECTION OF COL. WILLIAM LUDLOW, CORPS OF ENGINEERS, U. S. A.,
ENGINEER COMMISSIONER OF THE DISTRICT OF COLUMBIA.

A.—REPORT OF CAPT. THOMAS W. SYMONS, CORPS OF ENGINEERS, U. S. A.,
ASSISTANT TO THE ENGINEER COMMISSIONER OF THE DISTRICT OF
COLUMBIA.

DISTRICT OF COLUMBIA,
Washington, November 15, 1887.

SIR: I have the honor to submit the following report of the operations of and concerning the following divisions of the engineer department of which I have been given charge: Water division, sewer division, street-lighting division, harbor division.

Accompanying this report are the reports of the superintendent and chief clerk of the water division, the superintendent of the sewer division, the superintendent of lamps, and the harbor-master.

WATER DIVISION.

The report of the superintendent of the water division gives the details of the principal operations of the division for 1886-'87 in the extension and maintenance of the distributing system.

			Feet.
New mains laid:			
20 inches in diameter			4,830
12 inches in diameter			1,099
10 inches in diameter			2,944
6 inches in diameter			29,021
4 inches in diameter			280
3 inches in diameter			7,124
Mains lowered			1,143
Intersections laid			1,167
Valves changed to grade	35	Hydrants abandoned and removed..	6
Valves repaired	392	Hydrants moved to curb	2
Fire hydrants erected	26	Hydrants repaired	776
Fire hydrants changed to grade...	3	New drinking fountains erected...	3
Fire hydrants moved	7	Drinking fountains repaired	69
Fire hydrants repaired	798	Services laid to curb	194
Taps made	2,040	Services lowered	199
New hydrants erected	5	Street washers and stop boxes adjusted to new grade	397
New hydrants to replace old ones..	39		

472 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Summary statement of distributing system.

Mains.	Laid prior to June 30, 1886.	Laid dur- ing 1886-'87.	Total, June 30, 1887.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
75-inch diameter	662		662
48-inch diameter	6,848		6,848
38-inch diameter	16,500		16,500
30-inch diameter	20,150		20,150
20-inch diameter	10,350	4,830	15,180
12-inch diameter	69,968	1,099*	70,233
10-inch diameter	6,316	2,944	9,260
8-inch diameter	5,925		5,925
6-inch diameter	638,457	29,021	667,478
6 and 4-inch mains to fire-plugs	26,280		26,280
4-inch diameter and smaller	108,030	280	108,310
3-inch diameter	6,623	7,124	13,747
Total	916,109	45,298	960,573
• Stop-valves	1,253	120	1,373
Fire hydrants	987	26	1,013
Street hydrants †	285	5	284
Service connections	25,522	2,117	27,639
Taps	20,055	2,040	22,095

* 834 feet removed at site of new Congressional Library.

† Six street hydrants, abandoned.

Statement of fire hydrants, street hydrants, etc., in the several sections of the city.

	Fire hydrants.	Street hydrants.	Pumps.	Horse fountains.	Public fountains.
Georgetown	77	41	18	2	1
Northwest	581	131	120	37	31
Northeast	97	31	31	2	6
Southwest	105	46	51	4	
Southeast	153	41	75	3	1
Total	1,013	290	295	48	39

WATER TAKERS.

The following is a detailed list of various-sized houses in the different sections of the city which are supplied with water, also a table of the miscellaneous water takers:

TABLE A.—Houses in the District of Columbia supplied with Potomac water.

Front feet.	Two stories.						Three stories.						Four stories.						Five stories.				Six stories.		Eight stories.		Grand total.
	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Northwest.	Total.	Northwest.	Total.	Northwest.	Total.			
16	491	4,731	1,014	1,492	1,100	8,828	122	1,479	383	174	152	2,310	5	509	4	2	9	529	16	1	17	11,684					
17	54	321	1,128	74	104	681	19	305	43	48	50	465	1	197	6	...	5	209	14	...	17	1,372					
18	45	504	195	139	100	983	40	611	102	107	106	966	13	226	43	4	18	304	8	...	8	2,261					
19	18	176	66	29	20	309	11	344	53	9	56	473	4	135	5	1	12	157	4	...	4	2,943					
20	145	799	48	164	198	1,354	66	682	86	91	100	1,025	16	577	42	10	13	658	36	5	41	3,078					
21	31	139	19	32	29	250	24	157	14	22	15	232	6	127	23	1	16	173	8	...	10	3,665					
22	41	171	26	48	49	335	27	277	24	42	40	410	7	204	15	6	9	241	15	...	15	1,001					
23	18	60	9	10	10	107	26	113	8	11	12	170	8	128	4	1	3	144	9	...	9	1,430					
24	23	76	14	31	24	168	27	181	13	17	2	240	6	199	7	6	3	221	18	1	19	648					
25	15	103	19	27	15	179	25	250	12	20	14	321	9	287	6	8	5	315	23	...	24	839					
26	5	45	5	3	5	63	11	268	2	6	5	292	4	83	4	1	...	92	15	...	16	463					
27	1	16	1	4	2	24	5	32	1	...	1	39	9	49	2	1	1	62	14	...	14	139					
28	10	26	3	2	3	44	9	40	4	...	5	61	1	44	3	...	1	50	6	...	6	161					
29	2	13	...	...	...	18	2	17	...	3	...	19	1	18	...	...	1	24	5	...	5	66					
30	6	29	...	5	4	44	14	38	...	...	...	57	4	46	...	2	1	51	3	...	3	155					
31	...	2	...	...	...	2	2	16	...	...	...	19	...	11	2	1	...	14	1	...	1	36					
32	4	4	...	3	...	11	5	13	1	2	1	22	...	12	1	...	...	15	2	...	2	50					
33	4	1	...	3	...	13	5	11	1	...	...	18	1	10	...	...	...	11	1	...	1	43					
34	8	5	2	...	...	13	4	10	2	...	...	17	...	17	...	...	...	11	...	...	...	47					
35	3	5	1	...	...	14	3	16	...	...	...	20	...	12	...	...	...	12	...	...	...	48					
36	...	2	2	...	...	4	3	24	1	...	...	28	1	13	...	...	...	14	...	...	...	47					
37	...	2	...	...	...	3	2	1	1	...	...	5	...	2	...	...	...	3	...	...	...	12					
38	...	2	1	...	...	8	1	10	...	...	...	11	...	23	1	...	...	10	...	...	...	45					
39	4	1	...	...	...	5	2	4	1	...	...	9	...	10	...	...	...	10	...	...	...	25					
40	6	6	4	...	...	19	4	25	...	...	...	32	3	47	...	...	...	50	1	...	...	102					
41	...	1	...	...	...	1	...	4	...	...	...	4	...	13	...	...	...	9	...	...	...	14					
42	1	6	...	...	...	7	2	6	...	...	...	9	...	6	...	...	...	14	...	...	...	32					
43	1	2	...	1	...	4	...	3	1	...	...	4	...	5	...	...	...	6	...	...	...	15					
44	...	2	...	...	...	3	...	5	...	...	...	5	...	20	...	...	...	6	...	...	...	14					
45	...	7	...	...	...	7	...	3	...	...	...	9	...	10	...	...	...	11	...	...	...	18					
46	1	2	...	...	...	2	...	2	...	...	...	2	...	2	...	...	...	2	...	...	...	6					
47	...	1	...	...	...	1	...	6	...	...	...	8	...	17	...	...	...	20	...	...	...	4					
48	...	...	...	...	...	1	...	1	...	...	...	1	...	10	...	...	...	11	...	...	...	17					
49	...	1	...	...	...	1	...	11	1	1	...	15	...	2	...	...	...	2	...	...	...	48					
50	1	3	...	...	...	6	...	1	...	...	...	1	...	2	...	...	...	2	...	...	...	5					
51	1	1	...	...	...	2	...	3	...	...	...	2	...	2	...	...	...	2	...	...	...	5					
52	...	...	...	...	...	...	...	3	...	...	...	3	...	2	...	...	...	2	...	...	...	5					
53	...	...	...	...	...	...	...	3	...	...	...	3	...	2	...	...	...	2	...	...	...	...					

TABLE A.—Houses in the District of Columbia supplied with Potomac water—Continued.

Front feet.	Two stories.					Three stories.					Four stories.					Five stories.					Six stories.		Eight stories.		Grand total.
	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Georgetown.	Northwest.	Northeast.	Southwest.	Southeast.	Total.	Northwest.	Total.	Northwest.	Total.			
54	1	1				1		1				1		1									3		
55	1					1		3				3		3									7		
56														3									6		
57	1					1	1							1									3		
58																							1		
59																									
60	2					2	2	2																	
61	1	5										2		8						1			15		
62						6	1					1		1									9		
63												1		1									1		
64							1					1											1		
65																							1		
66							1					1											3		
67													2										2		
68												2											1		
69						1																	2		
70																							1		
71																							2		
72							1							1									1		
73																							2		
74																							1		
75																							1		
76													5							1			7		
77																				2			1		
78																							1		
79																									
80																									
81																									
82	1					1							1										1		
96	1					1																	1		
27	1					1																	1		
88																							1		
946	7,242	1,560	2,098	1,684	13,530	463	4,995	754	559	570	7,341	106	3,110	169	47	100	3,532	226	13	1	241	5	5	1	24,650

TABLE B.—*Miscellaneous water takers.*

Miscellaneous.	George-town.	NW.	NE.	SW.	SE.	Total.
Armories.....		2				
Barber shops.....	4	103	8	7	6	128
Bakeries.....	7	44	7	18	0	85
Banks.....	1	13				14
Bar rooms.....	12	244	28	63	24	351
Bicycle schools.....		2				2
Boarding-houses.....		96	34		6	136
Breweries.....		2	2		1	5
Bottling depots.....	1	4	1	6	1	13
Book-binderies.....		4				4
Baths.....		2				2
Churches.....	11	38	3	7	4	63
Colleges.....	1	12				13
Club-rooms.....		7				7
Dining rooms.....		22				22
Dye-houses.....		13			1	14
Florists.....		3				3
Founderies.....	2	5		2		9
Gas engines.....		3	1	1		5
Greenhouses.....	2	7	2		1	12
Halls.....	3	40		1	5	49
Hotels.....		31				31
Hospitals.....		2		1	1	4
Laundries.....		33		3	3	39
Manufactories.....		13	1			14
Market-houses.....	1	2			1	4
Mills.....	6	2	1	2		11
Orphan asylums.....		3				3
Offices.....	14	761	4	6	5	790
Printing-houses.....		13				13
Police station.....	1	4	1		1	7
Photograph galleries.....		25				25
Restaurants.....	6	225	2	5	9	247
Railroad stations.....		2				2
Stables, livery.....	3	48	1	1	4	57
Stables, private.....	42	539	52	2	5	696
Schools, public.....	4	23	10	3	5	45
Schools, private.....	1	22	1	2	1	27
Shops.....	9	123	6	1	6	151
Steam-boilers.....		56	2	1		59
Steam-engines.....	13	62	6	11	5	97
Slaughter-houses.....		1	3			4
Stores.....	362	916	16	52	57	1,403
Stone-yards.....		4	3	2		9
Theaters.....		4				4
Warehouses.....	4	29	3	7	3	46
Wood and coal yards.....		11	1		1	13
Brick-yards.....			1			1
Museums.....				3		3
Steam-boat wharves.....				6		6
Factory.....	1				1	1
Convent.....	1	1				2
Car stables.....	2	3	1	3	2	11
	513	3,602	201	232	226	4,774

These tables may be summarized as follows :

	Number.	Per cent.
Total number of houses supplied with water for domestic purposes.....	24,650	
Georgetown.....	1,515	.0612
Northwest section.....	15,579	.6322
Northeast section.....	2,496	.1013
Southwest section.....	2,705	.1098
Southeast section.....	2,355	.0955
Total number of miscellaneous water takers.....	4,743	
Georgetown.....	513	.108
Northwest section.....	3,602	.757
Northeast section.....	201	.042
Southwest section.....	232	.049
Southeast section.....	226	.044

476 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Financial statement for fiscal year 1886-'87.

Receipts from July 1, 1886, to June 30, 1887, inclusive :

Water tax :		
Current tax.....	\$34,874.59	
Advertised.....	7,630.50	
		\$42,505.09
Interest :		
On current tax.....	1,494.53	
On advertised tax.....	3,183.62	
		4,678.15
Water rents.....		138,539.49
Water-taps for services.....		6,012.00
Permits, for attachments, repairs, etc.....		4,846.45
Total.....		196,581.18

Expenditures from July 1, 1886, to June 30, 1887, inclusive :

Salaries.....		9,522.20
Contingent expenses.....		*2,639.94
Refunds :		
Water rents.....	\$580.74	
Water-main taxes.....	59.57	
		640.34
Pumping expenses and pipe distribution :		
Washington pump house.....	\$8,192.71	
Georgetown pump house.....	7,671.49	
Total pumping expenses.....		15,864.20
New mains, labor.....	26,397.94	
New mains, material.....	31,423.50	
Total for new mains.....		57,821.44
Fire hydrants, labor.....	850.00	
Fire hydrants, materials.....	1,237.00	
Total for fire hydrants.....		2,087.00
Repairs, inspection, changes, and all general ex- penses of water service, labor, and material....		25,469.41
Interest and sinking fund on account of water-stock bonds.....		†101,242.05
† Interest and sinking fund on account of increasing wa- ter supply :		57,735.00
Interest.....	22,640.04	
Sinking fund.....	34,598.98	
Total.....		171,779.53
Water tax levied during the year.....		47,345.86
Water-tax arrears June 30, 1887 :		
Amount subject to exemption act of March 3, 1881.....	\$4,113.78	
Amount charged against District of Columbia property....	1,391.79	
Amount collectible.....	61,857.62	
Total amount water-tax arrears June 30, 1887.....		67,362.19
Total amount of money standing to credit of Water Fund on books of United States Treasury June 30, 1887.....		71,275.88

* Of this amount there was expended the sum of \$8 from the appropriation for contingent expenses 1884-'85, and the sum of \$239.68 from the appropriation for contingent expenses 1885-'86.

† Of this amount there was expended the sum of \$10,847.18 from the appropriation for pumping expenses and pipe distribution 1885-'86, and the sum of \$16,796.19 from the same appropriation for 1887-'88, which was made "immediately available" in March, 1887.

‡ This item of \$57,239.02 was not advanced to Treasurer United States until July 2, 1887, two days after the close of fiscal year, and is not included in expenditures.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 477

Made up as follows:

In Treasury, drawn by requisition and subject to check, appropriation 1887	\$10,469.49
In Treasury, standing to credit of appropriations, 1883 to 1886	17,526.76
In Treasury, requisition balance.....	43,279.63
Total	71,275.88

Organization of and estimates for the water division of Engineer Department for the ensuing year 1888-'89.

1 chief clerk	\$1,800.00
2 clerks, at \$1,400	2,800.00
2 clerks, at \$1,200 (one additional)	2,400.00
1 clerk, at \$900	900.00
1 messenger	600.00
1 superintendent	1,600.00
1 special inspector (now paid on monthly roll)	1,800.00
1 chief inspector	1,000.00
6 inspectors, at \$900 (now paid on per diem roll)	5,400.00
1 draughtsman	1,800.00
Total	20,100.00

Contingent expenses (an increase of \$600)	3,000.00
* Pumping expenses and pipe distribution :	
Pumping expenses	16,000.00
Repairs and maintenance	17,500.00
Fire hydrants	4,000.00
Service mains	47,500.00
Supply mains	15,000.00
Total	100,000.00

Purchase of Washington pump-house lot, U street, between Sixteenth and Seventeenth streets (now under lease)	2,275.00
Main to Anacostia	2,500.00
Main to Mount Pleasant	7,500.00
Interest on water-stock bonds (Treasury estimate)	26,250.00
Sinking fund, water-stock bonds (Treasury estimate)	18,360.00
Sinking fund, account of increasing water supply (Treasury estimate) ..	52,386.96
Interest, account of increasing water supply (Treasury estimate)	34,575.39

Total estimate for 1888-'89 266,947.35

Comparative statement of revenues, actual and estimated.

Fiscal year.	Water rents.	Water taxes.	Taps.	Permits.	Total revenues.
1884-'85	\$118,528.20	\$20,578.88	\$3,402.00	\$3,076.09	\$145,585.17
1885-'86	124,896.22	36,162.04	5,096.00	3,459.03	169,613.29
1886-'87	138,539.49	47,183.24	6,012.00	4,846.45	196,581.18
Estimated, 1887-'88	170,000.00	52,000.00	6,000.00	5,000.00	233,000.00
Estimated, 1888-'89	190,000.00	52,000.00	6,000.00	5,000.00	253,000.00

* The following were items of expenditure under this head for previous year;

Expended, 1886-'87:	
Pumping expenses	\$15,864.20
Repairs and maintenance	25,469.41
Fire hydrants	2,087.00
Service and supply mains	57,821.44
Total	101,242.05

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Appropriation, 1887-'88.....	\$268, 201. 69
Of this amount there will be saved from appropriation for new pumping engines.....	8, 000. 00
Leaving probable actual expenditures for year 1887-'88.....	260, 201. 69
Money on hand at beginning of year 1887-'88.....	43, 279. 63
Estimated revenues year 1887-'88.....	233, 000. 00
Total.....	276, 279. 63
Making a probable amount on hand at beginning of 1888-'89.....	16, 077. 94
Making amount available for fiscal year 1888-'89:	
On hand at beginning of year 1888-'89.....	16, 077. 94
Estimated revenues, 1888-'89.....	253, 000. 00
Total.....	269, 077. 94

With this amount of \$269,077.94 it is proposed to meet the appropriation asked for of \$266,947.35.

The item of \$16,000 for pumping expenses is for engineers, firemen, coal, oil, repairs, and all other expenses at the Washington and Georgetown high-service pumping stations. For repairs and maintenance, \$17,500. This I believe to be a fair estimate of the probable cost of keeping the distribution system, mains, fire hydrants, street hydrants, etc., in good order, and the work of tapping the mains, supplying tap cocks, etc., and turning on and off water. As a large part of this estimate is contingent upon accident, it can only be approximate. It is to be borne in mind, however, that it is necessary to keep constantly employed a sufficient force skilled in the repair of mains and services; accidents occur from time to time which might produce serious results if not attended to with skill and promptitude. If the inspectors, draughtsman, and extra clerk estimated for under head of salaries are not so provided for, this item of \$17,500 should be correspondingly increased.

There are many fire hydrants needed in various parts of the city, and the sum of \$4,000 is a moderate provision for those most necessary for the protection of valuable property. If the revenues of the department would permit, a larger sum should be expended for this purpose.

For the laying of service mains \$47,500 is asked. These are mains which are laid upon the petition of the owners of a majority of the property fronting on the street, avenue, or alley in which the main is to be laid. The laying of a main carries with it an assessment of 1½ cents per square foot on the property fronting as above, which has never been previously assessed, and this, in many instances, is enough to pay the cost thereof. There should be no lack of money and power to lay mains properly petitioned for, as they are absolutely necessary to the growth and development of every part of the city.

The item of \$26,250 is for interest, and of \$18,360 is for sinking fund on the old debt of the water department incurred in laying the 36-inch main on L street. This debt bears interest at 7 per cent., and is so arranged at the Treasury Department that it will, upon payment of the above each year, be extinguished in 1901.

The items of \$34,575.39 for interest, and \$52,386.96 for sinking fund, are Treasury charges against the water fund on account of the new debt incurred for the work upon the dam, reservoir, and aqueduct now in progress for "increasing the water supply." The amounts are determined by the Treasurer of the United States.

Summary estimates for the water division, 1888-'89.

Salaries	\$20,100. 00
Contingent expenses	3,000. 00
Pumping expenses and pipe distribution	100,000. 00
Purchase of Washington pump-house lot	2,275. 00
Main to Anacostia	2,500. 00
Main to Mount Pleasant	7,500. 00
Interest and sinking-fund account	131,572. 35
Total	266,947. 35

There is submitted herewith a financial statement of the operations of the water division from the organization of the present form of government, July 1, 1878, to July 1, 1887. This statement was prepared by an accountant detailed for the purpose from the District auditor's office.

TABLE 1.—Statement of assessments and collection of water-main tax from July 1, 1878, to June 30, 1887.

Fiscal year.	Amount assessed.	Duplicate pay-ments and over-payments.	Six per cent. abate-ment.	Amount of tax canceled subse-quent to July 1, 1878.	Amount collected July 1, 1878, to June 30, 1887.	Amount outstand-ing July 1, 1887, subject to ex-emption act of March 3, 1881.	Amount of collect-ible tax out-standing July 1, 1887.
(*)	\$94,054. 49	\$154. 31		\$3,271. 71	\$68,332. 16	\$4,060. 10	\$18,544. 83
1879	11,488. 89	38. 96	\$138. 54	79. 24	10,151. 99	53. 68	1,104. 40
1880	4,965. 13		156. 40		4,618. 49		190. 24
1881	7,775. 35		265. 78	316. 07	6,198. 66		994. 84
1882	3,313. 89		67. 40		2,770. 85		475. 64
1883	3,495. 75		91. 62		3,307. 56		96. 57
1884	23,325. 37		399. 73	281. 06	16,609. 88		6,034. 70
1885	27,492. 36	. 39	662. 58		20,681. 27		6,148. 90
1886	40,547. 79	2. 00	1,311. 03	1,003. 72	28,137. 86		10,097. 18
1887	47,345. 86	67. 44	{ 1,458. 17 † 195. 00	{ 206. 24	27,383. 57		18,170. 32
Totals	263,804. 88	263. 10	4,746. 25	5,158. 04	188,192. 29	4,113. 78	61,857. 62

* Amount of tax outstanding and uncollected July 1, 1878.

RECAPITULATION.

	Total.
Total amount of assessments plus duplicate payments	\$264,067. 98
Amount of abatement at 6 per cent.	4,551. 25
† Amount of abatement allowed property-owners on College Hill for amounts paid by them to R. A. Charles	195. 00
Amount of tax canceled and struck off the books since July 1, 1878:	
By order of Commissioners, District of Columbia, various dates	1,761. 72
By reason of issue of erroneous tax certificates	332. 38
By act of Congress for relief of E. W. Patterson, approved June 13, 1885	215. 68
By reason of subdivision of property	816. 17
By amount charged against District of Columbia	1,391. 79
By amount charged against the United States	640. 30
Amount of tax collected from July 1, 1878, to June 30, 1887	188,192. 29
Amount outstanding July 1, 1887:	
Subject to exemption act of March 3, 1881	4,113. 78
Collectible tax	61,857. 62
	264,067. 98

TABLE II.—Statement of receipts of the Water Department, District of Columbia, from July 1, 1872, to June 30, 1887.

Fiscal year.	For mains to Govt. Printing Office.	Water-main tax.		Interest on water-main tax.		Taps.	Permits and other sources.	Total receipts.
		Advertised.	Current.	Advertised.	Current.			
Balance on hand July 1, 1878.								\$16,809.42
Received year ending June 30—								
1879.			\$12,463.10	\$1,635.96	\$1,079.53	\$1,986.00	\$2,139.25	69,053.67
1880.		\$6,195.59	11,926.81	3,457.43	1,340.18	1,980.00	2,188.10	196,722.81
1881.		10,248.87	18,368.39	1,228.94	4,040.08	1,851.00	1,915.72	*140,342.34
1882.		3,200.38	3,305.50	2,086.07	392.34	1,815.00	1,789.71	117,827.64
1883.	\$2,800.00	4,017.92	5,467.96	3,769.83	350.54	2,193.00	2,188.72	88,792.42
1884.	1,750.00	7,320.13	8,700.53	2,385.59	122.42	2,418.79	2,418.79	139,173.65
1885.		3,563.12	14,439.22	2,598.81	267.28	3,402.00	3,076.09	145,585.17
1886.		3,282.57	29,631.30	2,343.44	622.49	5,096.00	3,459.03	169,613.29
1887.		3,564.81	34,874.59	3,183.62	1,494.53	6,012.00	4,846.45	196,581.18
Totals		49,023.89	139,168.40	22,689.69	9,689.39	26,708.00	24,021.86	1,280,561.59

^a December 20, 1880, there was collected \$10.75 on account of water-main tax, (advertised) which sum was deposited to the credit of "Arrears of General Taxes."

TABLE III.—Expenditures.

Fiscal year.	Material and labor, pumping expenses, and pipe distribution.	Salaries, water department.	Contingent expenses.	Water rents refunded.	Water-main tax refunded.	Interest on water-main tax refunded.	Erection of stand-pipe.	Water-main to Government Printing Office.	Total expenditures.
Expended in—									
1879.	\$44,871.89	\$7,710.00	\$506.09	\$164.51	\$29.12	\$9.07	\$29,395.40		\$82,686.08
1880.	48,752.55	10,417.61	962.19	82,130.10	35.26	15.47	3,237.47		95,550.65
1881.	52,781.67	10,830.00	1,141.10	284.69		5.55	1,580.39		66,623.40
1882.	42,334.11	11,670.23		152.21	9.14	7.18			54,172.87
1883, on account of 1882	3,523.73								3,523.73
1883, on account of 1883	43,551.24	9,339.00	1,009.43	303.38	38.96	22.41		\$5,599.94	59,864.36
1884, on account of 1883	5,950.26		819.23						6,769.49
1884, on account of 1884	46,454.04	9,339.00	1,548.12	590.01	80.79	82.78		3,346.27	61,441.01
1885, on account of 1883	102.00		8.75						110.75
1885, on account of 1884	941.11		223.61						1,164.72
1885, on account of 1885	79,878.66	9,112.90	1,954.07	373.44					91,519.07
1886, on account of 1885	17,472.69		109.83						17,582.52
1886, on account of 1886	58,655.72	9,339.00	2,148.63	385.08					70,528.43
1887, on account of 1885			8.00						8.00
1887, on account of 1886	10,847.18		239.68						11,086.86
1887, on account of 1887	73,598.68	9,522.20	2,392.26	580.77	59.57				86,153.48
1887, on account of 1888	16,796.19								16,796.19
Totals.	546,511.72	87,479.94	13,070.99	34,964.19	252.84	142.46	34,213.26	8,946.21	725,581.61

TABLE IV.—*Advances to Treasurer United States.*

Fiscal year.	Interest and sink- ing fund; water-stock bonds.	Interest and sink- ing fund; increasing water sup- ply.	Total in- terest and sinking fund.
Advanced to Treasurer of United States, <i>ex-officio</i> Commissioner of Sinking Fund, District of Columbia:			
1880	\$74,025.00	.....	\$74,025.00
1881	74,123.77	.....	74,123.77
1882	43,796.08	.....	43,796.08
1883	44,610.00	.....	44,610.00
1884	44,575.00	.....	44,575.00
1885	44,610.00	\$13,686.23	58,296.23
1886	31,485.00	55,047.27	86,532.27
1887	57,735.00	.....	57,735.00
Total amount advanced to Treasurer of United States from July 1, 1878, to June 30, 1887.....	414,959.85	68,733.50	483,693.35

RECAPITULATION.

To amount collected (of which there has been deposited in the United States Treasury, and credited to water fund, the sum of \$1,280,550.84)	\$1,280,561.59
By amount expended from July 1, 1878, to June 30, 1887.....	725,581.61
By amount advanced to Treasurer United States, <i>ex-officio</i> Commissioner Sinking Fund, District Columbia, during said period	483,693.35
By amount collected on account water-main tax, and deposited to credit of general taxes, December 20, 1880	10.75
Balance to credit of water fund, District Columbia, July 1, 1887.....	71,275.88
	<u>1,280,561.59</u>

TABLE V.—*Statement of the length and cost of water mains laid from July 1, 1878, to June 30, 1887.*

Fiscal year.	Dimension.								Cost.
	30-inch.	20-inch.	12-inch.	10-inch.	8-inch.	6-inch.	4 inch.	3-inch.	
1879	39½	.....	3,761	.....	.....	12,781	30	.....	\$14,846.20
1880			7,409	.....	.....	8,546	1,397	.....	19,436.03
1880						*3,024	.....	.....	.....
1881						3,709	.....	.....	3,110.70
1882						1,920	.....	.....	1,626.43
1883					26	4,084	.....	.....	8,073.70
1884			1,675	.....	.....	8,972	.....	.....	10,492.51
1884			1,038	.....	.....	27,766	358	485	25,865.35
1885			963	.....	.....	35,192	.....	6,623	40,025.10
1886			1,938	791	.....	29,021	280	7,124	56,951.00
1887		4,830	†1,099	2,944	.....	.....	.....	.....	.....
Totals	39½	4,830	17,913	3,735	26	135,015	2,065	14,232	180,427.02

* Laid on Road street, Georgetown, to replace old cement pipe.
† 1,074 feet to U. S. Library site, cost not included herein.

Table No. I is a full statement of the water-tax account. Starting out with the amount of outstanding water tax on the books at the organization of the present form of government, July 1, 1878, it gives the amount assessed each year since, the amount refunded in consequence of duplicate payments and overpayments, the amount of the 6 per cent. abatement for immediate payment, the amount of tax canceled for various causes, the amounts collected, the amounts outstanding subject to exemption, and the amount collectible from each year's assessments.

From this it is seen that the gross amount of outstanding water tax is \$65,971.40, and the amount of collectible tax is \$61,857.62.

There is also a constantly varying amount of interest due on this outstanding tax which has not been computed and is not stated here.

The amount is approximately \$20,000.

Table No. II is a statement of the receipts of the water office. Starting with the amount of money on hand July 1, 1878, it gives the amounts received each year from various sources to June 30, 1887. An inspection of the column of water rents received shows that the yearly amounts vary in an apparently abnormal manner. The fact that there was collected for water rents in 1879-'80 \$165,641.42, which exceeds the amount collected any subsequent year, has been made the occasion of comment. The explanation of the matter is, that the water year formerly coincided with the calendar year, beginning on the 1st of January, thus differing from the fiscal year, which is from July 1 to July 1.

The Commissioners endeavored to change the water year to correspond with the fiscal year in 1879, and made during the fiscal year 1879-'80 two collections; one for six months and one for twelve months' water rent.

The courts decided against this proposition, and the water year was consequently restored to correspond with the calendar year, and the sum of \$32,130.10 was refunded to water takers.

Another similar discrepancy appears in the amounts received for water rents in 1883 and '84, when the water year was changed to correspond with the fiscal year by authority of Congress.

Table II shows that the gross receipts of the water office since the organization of the present form of government have been \$1,280,561.59.

Table III gives a summary of all expenditures of the water department from July 1, 1878, to June 30, 1887.

The second column of this table gives the expenditures made each year under the general omnibus clause of the appropriation bills, which clause embraces all expenditures not otherwise specifically provided for. This includes the expenditures for purchasing and laying mains, fire and street hydrants, etc., and keeping them in order, most of the cost of the inspection, all the cost of pumping at Washington and Georgetown, etc.

The total aggregate expenditures for service and material from July 1, 1878, to June 30, 1887, have been \$725,581.61.

Table IV shows the amounts turned into the United States Treasury from July 1, 1878, to June 30, 1887, as payment of principal and interest on the debts of the water service.

The second column gives the amount of interest and sinking fund paid on the debt incurred for laying the 36-inch main from the distributing reservoir to the corner of L street and New Jersey avenue. This debt bears interest at 7 per cent. At the present rate of payment (\$44,610 per year) it will be extinguished in 1901.

The third column shows the amount paid up to June 30, 1887, on the debt incurred for the new works, not yet completed, for increasing the water supply.

The total amount paid out for interest and sinking fund since July 1, 1878, is \$483,693.35.

The recapitulation to Table IV gives the balance between all receipts and disbursements, and shows that the gross amount standing to the credit of the water fund July 1, 1887, is \$71,275.88. A portion of this has been drawn out on requisition and is in the Treasury, charged to various appropriations, but as yet (July 1, 1887) unexpended. The net amount standing on the books of the Treasury to the credit of the water fund, undrawn by requisition, is \$43,279.63.

There is also given herewith, in Table V, a list of the water mains laid each year during the period from July 1, 1878, to June 30, 1887, and the cost thereof.

The total cost of the mains laid during the nine years was \$180,427.02. During the same period the assessments levied for water tax amounted to \$169,750.39, and the water tax collected amounted to \$188,192.29, partially accruing from previous years.

The total length of mains laid was 177,855½ feet. It is thus seen that the average cost of all mains laid for the last nine years has been a little more than \$1 per linear foot.

The excess of the cost of the mains over assessments during the nine years has been \$10,676.63.

The cost of the mains given above does not include the cost of fire hydrants, of which 218 have been erected during the nine years. The exact cost of these and their erection can not now be accurately determined, but it is about \$17,500, or about \$80 each.

The water tax of 1½ cents per square foot is supposed to pay the cost of mains and fire hydrants. From the foregoing statement, however, it is seen that during the past nine years it has fallen short of doing this by $\$10,676.63 + \$17,500 = \$28,176.63$.

REVENUES.

The amount asked to be appropriated for the water service for 1888-'89, viz, \$266,947.35, is the amount which it is believed will be at the disposal of the water office under existing rates and conditions. The appropriation asked is limited by the estimated revenue and is not adequate to the full needs of the service after providing for the interest and sinking-fund charges. Of the estimate \$131,571.35, or nearly one-half, must be devoted to paying debts, leaving \$134,376 for all other needs.

For many years the net revenues of the department have been barely sufficient to meet the ordinary expenses and to extend the service mains as needed, leaving almost nothing to be expended for more general work.

About three-fourths of the people of Washington take Potomac water into their houses and pay for the same. The other fourth are supplied free of charge by the public hydrants scattered all over the city. It is evident, therefore, that the water-rent payers pay not only for the water which they use themselves, but for the water used by about a fourth of the population who do not pay. Further, these water-rent payers and those people whose property is assessed for water mains, pay all the expenses of furnishing, erecting, and maintaining the fire hydrants for the protection of property from fire, and for supplying water to the buildings used by the District government for various purposes, and for which the water office receives no revenue.

I believe the most satisfactory way of treating the public hydrant question is as proposed in another part of this report, *i. e.*, to provide for collecting a charge of from \$3 to \$5 per year from all premises within 500 feet of a public hydrant, which premises are not supplied with water in the ordinary way. If this is not done, and a large proportion of the people of the District are to be supplied with water free of charge, the cost of doing so should be borne by the District government, and not by the water division, or, in other words, by the people alone who pay for water.

TABLE C.—Statement of District government property supplied with Potomac water, with amounts which should be charged therefor at schedule rates—Continued.

Location.	Stories.	Front feet.	Rooms.	Urinals.	Water-closets.	Sinks.	Bath-tubs.	Wash-stands.	Spigots.	Horses.	Stalls.	Rate.
ENGINE-HOUSES.												
K street, between Sixteenth and Seventeenth, NW	2	26	6	1	1	....	1	2	6	4	7	\$18.00
D street, near Twelfth, NW	2	28	5	1	1	....	1	2	6	5	5	18.75
Delaware avenue, near C street, NE	2	36	5	1	1	1	1	1	6	4	4	18.00
Virginia avenue, between Four-and-a-half and Sixth streets, SW	2	30	5	1	2	1	1	2	5	5	7	24.75
M street, between Thirty-second and Thirty-third, NW	3	39	8	1	2	1	1	1	4	5	5	21.75
Massachusetts avenue, between Fourth and Fifth streets, NW	2	31	6	1	2	1	1	1	3	5	5	21.75
R street, between Ninth and Tenth, NW	2	31	5	1	3	1	1	1	3	5	5	24.75
TRUCK HOUSES.												
North Capitol street, between B and C, NE..	2	31	7	1	2	....	1	2	5	4	4	21.00
Corner New Hampshire avenue and M street, NW	2	44	7	1	2	....	1	2	4	4	4	21.00
Total												189.75

Location.	Stories.	Front feet.	Rooms.	Urinals.	Water-closets.	Sinks.	Bath-tubs.	Wash-stands.	Spigots.	Cloak-rooms.	Rate.
SCHOOL-HOUSES.											
Third street, between M and N, SE	2	55	10	1	2	....	....	....	3	....	\$9.00
Seventh street, corner G, SE	2	40	2	....	1	....	....	....	....	....	3.00
Twelfth street, corner G, SE	4	80	9	1	2	2	....	....	4	8	15.00
Fifth street, corner C, NE	5	90	37	1	2	2	....	2	4	12	21.00
Third street, corner D, SE	3	83	15	1	2	2	....	....	2	8	15.00
I street, between Sixth and Seventh, NE	3	70	12	1	4	2	....	....	6	8	51.00
Ninth street, between K and Virginia avenue, SE ..	2	38	3	1	1	....	....	....	....	....	6.00
Fifth street and Virginia avenue, SE	2	20	4	1	2	....	....	....	1	....	9.00
Sixth street, between B and C, NE	4	174	39	2	7	4	....	12	20	24	75.00
Sixth street, corner D, SW	2	32	4	1	2	2	....	....	2	....	15.00
Four-and-a-half street, between M and N, SW ..	2	32	4	1	2	....	....	....	....	....	9.00
* Twelfth street, between Maryland avenue and E, SW ..	2	32	4	1	2	....	....	....	....	....	9.00
Sixth street, corner F, SW	3	82	15	1	2	2	....	....	4	8	15.00
O street, between Thirty-second and Thirty-third, NW ..	3	58	12	1	4	2	....	1	7	8	24.00
Thirty-second street, corner S, NW	3	30	6	....	2	....	....	....	1	....	6.00
P street, between Thirty-second and Thirty-third, NW ..	4	77	24	1	4	3	....	....	8	8	24.00
O street, between Sixth and Seventh streets, N. W.	4	200	43	1	24	5	....	2	7	....	96.00
Thirteenth and K streets, NW	5	148	28	1	3	4	....	2	17	16	30.00
Twelfth street, between K and L, NW	4	30	8	1	3	2	1	1	4	6	24.00
Massachusetts avenue, between Seventeenth and Eighteenth streets, NW ..	4	90	17	1	3	3	....	....	7	12	21.00
S street, between Thirteenth and Fourteenth, NW ..	4	93	21	1	4	8	....	2	26	12	45.00
G street, between Twenty-first and Twenty-second, NW ..	4	93	20	1	4	4	....	2	15	12	33.00
Fourteenth street, corner N, NW	2	32	3	....	3	1	....	....	1	....	15.00
Fourteenth and Q streets, NW	2	27	2	1	2	....	....	2	2	....	15.00
I street, between Second and Third, NW	4	68	21	....	12	1	....	3	5	12	48.00
New York avenue, corner Sixth street, NW	4	110	15	1	5	2	....	2	7	8	30.00
Tenth street, corner H, NW	4	107	16	1	24	4	....	....	6	12	87.00
First street, corner Massachusetts avenue, W	4	66	19	1	24	6	....	....	6	12	93.00
Fifth street, corner R, NW	3	70	12	1	2	2	....	....	6	8	15.00
Third street, between N and O, NW	3	70	14	1	2	2	....	....	6	8	15.00
P street, between Sixth and Seventh, NW	4	88	25	1	1			3	8	12	15.00
Pennsylvania avenue, between Seventh and Eighth, SE ..	4	98	13	1	5	5			7	12	33.00

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TABLE C.--Statement of District government property supplied with Potomac water, with amounts which should be charged therefor at schedule rates--Continued.

Location.	Stories.	Front feet.	Rooms.	Urinals.	Water-closets.	Sinks.	Bath-tubs.	Wash-stands.	Spigots.	Cloak-rooms.	Rate.
SCHOOL-HOUSES--continued.											
Prospect and Thirty-sixth streets, NW	4	28	7	1	2	1			1	4	12.00
Twenty-eighth street, between M and Olive	2	40	4	1	2				1		9.00
Seventeenth street, between P and Q, NW	4	65	24	1	5	2		2	12	10	30.00
Seventeenth street, corner M, NW	4	94	18	1	3	1		3	4	12	24.00
Twenty-first street, between K and L, NW	4	48	29		4				1	12	12.00
O street, between Fourth and Fifth, NW	3	59	16	1	3	1		2	3	8	21.00
Second street, corner C, SE	4	74	22	1	4	2			2	8	21.00
Twelfth street, corner D, NE	3	50	12					1	3		
First street, corner I, SW	3	90	13	1	3	1		1	3	8	18.00
Ninth street, corner E, SW	2	88	10	1	3				5		12.00
Third street, between K and L, NW	3	71	12	1	6	2			6	8	27.00
Tenth street and U, NW	4	100	22			1		6	8	12	21.00
Prospect street, between Thirty third and Thirty-fourth, NW	3	70	12	1	2	2		1	6	8	18.00
Thirteenth and B streets, NE	3	70	16	1	3	3		1	10	8	24.00
Q street, between Twenty-ninth and Thirtieth, NW	1	20	4		1	2			2		9.00
P street, between Thirty-first and Thirty-second, NW	2	20	2		2				1		6.00
Thirty-first street, between N and Dunbarton	1		1		1				1		3.00
G street, between Third and Fourth, SE	3	70	13	1	2	3		1	10	8	21.00
C street, between Seventh and Eighth, SE	3	115	13	1	2	3		1	10	8	21.00
Twenty-third and M streets, NW	3	83	13	1	2	3		1	10	8	21.00
Fifth street, between D and E, NE	3	70	13	1	2	3		1	10	8	21.00
Thirteen-and-a-half and C streets, SW	3	70	13	1	2	3		1	10	8	21.00
Vermont avenue and P street, NW	3	70	13	1	2	3		1	10	8	21.00
M street, between Sixteenth and Seventeenth, NW	3	56	13	1	2	3		1	10	8	21.00
Total											1,326.00
Grand total											2,626.00

This amount, according to the present schedule, is \$2,626. There is also an amount of \$1,391.79 of water-tax chargeable against property of the District of Columbia. To summarize: The water rent and water-tax payers of the District are, under present conditions, compelled to pay for supplying one-fourth of the people of Washington with free water; they are compelled to pay the expenses incurred by the water division in furnishing protection from fire; water for street sprinkling, flushing sewers, etc.; for furnishing water to all District buildings, and for all District purposes; and, furthermore, they are compelled to furnish water to churches, charitable institutions, hospitals, etc., thus imposing a heavy burden upon the water-takers only, which might more properly be a general charge.

I would, therefore, suggest that legislation be procured authorizing "a special assessment of from \$3 to \$5, according to the size of buildings, to be levied upon all premises situated within 500 feet of a public hydrant, which premises are not supplied with water in the ordinary manner, and this assessment to be collected in the same manner as ordinary taxes, and deposited to the credit of the water fund, together with the regular water-rent charges and water taxes on all District property receiving the benefit of the water supply.

Such a law would be a partial re-enactment of the old fire-plug tax law, which was as follows:

Fire-plugs shall be erected throughout the city, and for that purpose the Water Board is authorized and empowered to lay and collect, through the water register, an

annual tax, which shall be due and payable on the first of July in each year after the same shall have been levied, on all buildings situated within 500 feet of any main water-pipe into which, or the premises connected therewith, the water has not been introduced, and the owners or occupants of which do not pay to this corporation an annual water rate or rent; which tax shall be levied with reference to the assessed value of the buildings so taxed, and shall not be more than \$5 nor less than \$1 per year: *Provided*, That whenever the water shall be introduced in conformity with the corporation laws into any building or premises, the fire-plug tax thereon shall cease, and whenever the water shall be discontinued from any building or premises into which it has been introduced, the said building shall be subject to the fire-plug tax from the date of the discontinuance of the water.

If this legislation could be procured and carried into effect, it would add a considerable sum to the revenue of the water department, and place all property in the District of Columbia receiving the benefits of the water supply upon a more equal footing in regard to bearing its share of the expense of the general distribution system of the city.

WATER RENTS.

Water rents were collected for the year 1886-'87 in accordance with the schedule originally established in 1880. This schedule is, with some modifications, the same as that established when water was first introduced into the city. The schedule as now in force is given herewith.

SCHEDULE OF WATER RENTS.

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, March 29, 1887.

AN ACT to confer upon the Commissioners of the District of Columbia certain powers, duties, and limitations contained in chapter 8 (water service) of the Revised Statutes of the United States relating to the District of Columbia, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Commissioners of the District of Columbia shall have all the powers and be subject to all the duties and limitations provided in chapter 8 of the Revised Statutes of the United States relating to the District of Columbia, excepting such powers and duties as belong to the Chief of Engineers: *Provided*, That water-main taxes and water rents shall be uniform in said District: *And provided further*, That the rate of interest specified in section 202 of said Revised Statutes shall be increased to 10 per cent. per annum from and after the passage of this act.

* * * * *

Approved June 10, 1879.

Ordered, That under the authority invested in the Commissioners of the District of Columbia by the above-recited act, the following schedule of annual water rates is adopted, to take effect on the 1st of July, 1887, and will continue in force until otherwise ordered:

Domestic rates.

The rates for domestic purposes will be charged according to stories and front feet. On all tenements two stories high, with a front width of 16 feet or less, \$3.50 per annum.

For each additional front foot, or fraction thereof, 25 cents.

For each additional story, or part thereof, one-third of the charge as computed above.

Special business and miscellaneous rates.

In every case where business houses or tenements are occupied also for domestic purposes, the regular charge for domestic purposes according to the above rates will be made, and in addition thereto, the special business rate, as hereinafter specified.

Special and miscellaneous business will be charged at the following rates, viz:

Bar rooms and restaurants, from \$15 to \$50 per annum.

Billiard rooms, from \$5 to \$20 per annum.

Eating-houses, from \$5 to \$20 per annum.

Barber shops, from \$6 to \$12 each per annum.

Public baths, \$4 per annum for each and every tub.

Bakeries, from \$3 to \$15 per annum.

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Boarding and tenement houses will be charged at a rate in accordance with the stories and front feet, and in addition thereto 50 cents per annum for each and every room over and above the number of three rooms in said boarding-house or tenement.

Building purposes: For each 1,000 bricks laid, 3 cents per 1,000. Special rates will be charged for public works.

Brick-yards: Ten to fifty dollars each per annum, according to production. Machinery and horse-power extra at regular rates.

Boarding-schools and school-houses: From \$5 to \$10 per annum.

Depots: Locomotive engines taking water once per day, \$75; twice per day, \$150. The building extra, according to number of offices, bars, and refreshment rooms; water-closets and urinals, \$3 each.

Dye-houses: Five to twenty dollars per annum. Machinery taking water extra.

Fountains will only be used three hours per day, and will be charged as follows: One-sixteenth of an inch jet, \$5 per annum; for a one-eighth of an inch jet, \$10 per annum; for a one-quarter of an inch jet, \$20 per annum; for a one-half inch jet, \$50 per annum; for a three-quarter of an inch jet, \$75 per annum; and for an inch jet, \$150 per annum.

In case a meter is used, there will be charged 1 cent for each and every 100 gallons. No fountain will be permitted on any premises where the water is not taken for other purposes, and to an extent sufficient for those purposes; and if the water from the jet or fountain be permitted to flow into premises adjacent to or in the neighborhood, where it may be used for other purposes, the supply will be stopped and the amount of payment forfeited.

Florists will be charged at the rate of from \$5 to \$20 per annum, according to the size of the premises.

Horses, private: For each and every horse, \$1.50; said sum to include water for washing carriages.

Hotels: One dollar for each bed or furnished room; bar, billiard rooms, barber shops, offices, stores, and machinery taking water, extra.

Laundries: Five to fifteen dollars, according to general business. Machinery using water, according to the rates for stationary engines and boilers.

Mills: Five dollars. Machinery extra, according to the rates for stationary engines.

Market-houses: Fifty cents per stall.

Offices: Three dollars per annum.

Printing-houses: From \$5 to \$10 per annum, according to the number of presses. Machinery in same using water will be charged in addition thereto, according to the rate for stationary engines.

Stables: All stables for animals for livery, hack, express, cab, street car, draught, sale, dairy, or other purposes, will be charged for water at the rate of 75 cents per stall.

Stationary engines: Three dollars per horse-power. Boilers without engines, \$1.75 per horse-power.

Stores, shops, confectioneries, warehouses, and mills: Five to ten dollars per annum.

Steamboats according to tonnage; 50 tons and under, \$25; over 50 tons, \$50.

Street-washers, where parties use same, and water is not taken in the house, will be charged at rates from \$3 to \$10 per annum, according to nozzle or tap, and may be used not longer than thirty minutes immediately before sundown.

Street-sprinklers will be charged at the rate of 1 cent for each and every thousand gallons of water used.

Slaughter-houses: From \$5 to \$20 per annum, according to general business. Machinery taking water, extra, according to rates for stationary engines.

Swimming baths, manufactories, paper mills, or any other business requiring a large supply of water will be required to use a meter, and will be charged at the rate of 10 cents for each and every thousand gallons of water used.

All water required for purposes which are not specified in the foregoing tariff shall be paid for at such rate as may be fixed by the Commissioners.

WM. B. WEBB,

S. E. WHEATLEY,

WM. LUDLOW,

Commissioners, District of Columbia.

The only difference between the old and new schedules is in the domestic rates and charging public stables according to the number of stalls instead of according to the number of animals.

The domestic rates under the old schedule were:

On all tenements two stories high, with front width of 16 feet or less, \$3.30 per annum; each additional story \$1.10, and each additional front foot 28 cents.

A table is given herewith showing the rates for different size houses under old and new schedules.

TABLE D.—Comparative water-rates under old and new schedules.

[Heavy face type—old schedule ; light type—new schedule.]

Feet front.	2 stories.	3 stories.	4 stories.	5 stories.	6 stories.	7 stories.	8 stories.
16	3.30	4.40	5.50	6.60	7.70	8.80	9.90
	3.50	4.67	5.84	7.01	8.18	9.35	10.52
17	3.58	4.68	5.78	6.88	7.98	9.08	10.18
	3.75	5.00	6.25	7.50	8.75	10.00	11.25
18	3.85	4.95	6.05	7.15	8.25	9.35	10.45
	4.00	5.33	6.66	7.99	9.32	10.65	11.98
19	4.13	5.23	6.33	7.43	8.53	9.63	10.73
	4.25	5.66	7.09	8.48	9.89	11.30	12.71
20	4.40	5.50	6.60	7.70	8.80	9.90	11.00
	4.50	6.00	7.50	9.00	10.50	12.00	13.50
21	4.68	5.78	6.88	7.98	9.08	10.18	11.28
	4.75	6.33	7.91	9.49	11.07	12.65	14.23
22	4.95	6.05	7.15	8.25	9.35	10.45	10.55
	5.00	6.66	8.32	9.98	11.64	13.30	14.96
23	5.23	6.33	7.43	8.53	9.63	10.73	11.83
	5.25	7.00	8.75	10.50	12.25	14.00	15.75
24	5.50	6.60	7.70	8.80	9.90	11.00	12.10
	5.50	7.33	9.36	11.49	13.02	14.65	16.68
25	5.78	6.88	7.98	9.08	10.18	11.28	12.38
	5.75	7.66	9.59	11.51	13.43	15.30	17.27
26	6.05	7.15	8.25	9.35	10.45	11.55	12.65
	6.00	8.00	10.00	12.00	14.00	16.00	18.00
27	6.33	7.43	8.53	9.63	10.73	11.83	12.93
	6.25	8.33	10.41	12.49	14.53	16.61	18.69
28	6.60	7.70	8.80	9.90	11.00	12.10	13.20
	6.50	8.66	10.84	13.01	15.18	17.35	19.52
29	6.88	7.98	9.08	10.18	11.28	12.38	13.48
	6.75	9.00	11.25	13.50	15.75	18.00	20.25
30	7.15	8.25	9.35	10.45	11.55	12.65	13.75
	7.00	9.33	11.66	14.00	16.33	18.66	21.00
31	7.43	8.53	9.63	10.73	10.83	12.93	14.03
	7.25	9.66	12.09	14.51	16.93	19.35	21.77
32	7.70	8.80	9.90	11.00	12.10	13.20	14.30
	7.50	10.00	12.50	15.00	17.50	20.00	22.50
33	7.98	9.08	10.18	11.28	12.38	13.48	14.58
	7.75	10.33	12.91	15.49	18.07	20.65	23.23
34	8.25	9.35	10.45	11.55	12.65	13.75	14.85
	8.00	10.66	13.34	16.01	18.68	21.35	24.02
35	8.53	9.63	10.73	11.83	12.93	14.03	15.13
	8.25	11.00	13.75	16.50	19.25	22.00	24.75
36	8.80	9.90	11.00	12.10	13.20	14.30	15.40
	8.50	11.33	14.16	16.99	19.83	22.66	25.50
37	9.08	10.18	11.28	12.38	13.48	14.58	15.68
	8.75	11.66	14.58	17.49	20.41	23.32	26.24
38	9.35	10.45	11.55	12.65	13.75	14.85	15.95
	9.00	12.00	15.00	18.00	21.00	24.00	27.00
39	9.63	10.73	11.83	12.93	14.03	15.13	16.23
	9.25	12.33	15.41	18.50	21.58	24.66	27.75
40	9.90	11.00	12.10	13.20	14.30	15.40	16.50
	9.50	12.66	15.83	18.96	22.16	25.32	28.49
41	10.18	11.28	12.38	13.48	14.58	15.68	16.78
	9.75	13.00	16.25	19.50	22.75	26.00	29.75
42	10.45	11.55	12.65	13.75	14.85	15.95	17.05
	10.00	13.33	16.66	20.00	23.33	26.66	30.00
43	10.73	11.83	12.93	14.03	15.13	16.23	17.33
	10.25	13.66	17.07	20.49	23.90	27.31	30.73
44	11.00	12.10	13.20	14.30	15.40	16.50	17.60
	10.50	14.00	17.50	21.00	24.50	28.00	31.50
45	11.28	12.38	13.48	14.58	15.68	16.78	17.88
	10.75	14.33	17.91	21.50	25.08	28.66	32.25

As illustrations from this table : For a house 16 feet front and 2 stories high the increase is 20 cents ; for a house 24 feet front and 2 stories high the rate is unchanged ; for a house 30 feet front and 2 stories high the decrease is 15 cents ; for a house 16 feet front and 4 stories high the increase is 34 cents ; for a house 24 feet front and 4 stories high the increase is \$1.66 ; for a house 30 feet front and 4 stories high the increase is \$2.31 ; and for a very large house, 40 feet front and 5 stories high, the increase is \$5.79.

It is readily seen from the table and these illustrations that there has been very little increase in small houses (in a few cases a decrease), while for large houses the rates have been considerably increased. The present schedule was devised with the main idea of rendering the rates more equitable than they were under the old schedule. There has been very little dissatisfaction expressed by individual water takers with these rates. The total increase in consequence of these new rates, based upon the number and size of dwellings in the city at present, is \$10,816.15.

The present schedule was in the main established many years ago; since then the uses of water have changed and many new uses have been found for it not formerly contemplated. In some respects the schedule charges for water for business purposes do not meet present requirements. They should be modified and made more definite in several particulars, so that it will be possible to make water charges more in proportion to the benefits received.

The present system of delivering the water-rent bills at the office instead of upon the premises works satisfactorily. Under the old system from a half to two-thirds of the bills had to be made out a second time on account of the first bills being lost or not reaching the person who pays the rent. Now the right person can come in, get his bills and pay them, or he can send a note to the office and get and pay his bills by mail.

WATER DISTRIBUTION.

Several important additions to the water supply and distribution system have been brought into use during the year which have had the effect to materially benefit the supply.

(1) The completion of the dam at the Great Falls under the direction of the United States Government has insured the maintenance of the water in the distributing reservoir at its full height through the season of low water.

(2) The 48-inch main up New Jersey avenue, Fourth, Boundary, and Four-and-one-half streets extended, to College street, intended finally to bring the water from the new reservoir to the city distributing system, was brought into temporary use in May, 1887, by filling it with water and using it to improve the circulation. Through its means the pressures in the northeastern parts of the city and on Capitol Hill have been maintained at a more satisfactory state than previously. The main holds 625,000 gallons of water, and while it does not materially increase the maximum pressures in the smaller mains, its effect is to render the pressures more uniform and at all times nearer to the maximum.

(3) The supply of water to the pumping station on U street, between Sixteenth and Seventeenth streets, was very deficient. The supply was through a 12-inch main from the 36-inch main on L street, up Twenty-second street, Boundary and U streets, a distance of nearly 7,000 feet. The loss of head due to this long line of pipe was such that water would not flow to the pump in quantity sufficient to permit the pump to work at anything like its maximum capacity, and its usefulness was in consequence much curtailed. To overcome the defect and supply sufficient water to the pump, a main 20 inches in diameter was laid from the 36-inch main on L street up Seventeenth street to U street. This main was completed June 14, 1887, and since then the supply has been abundant, the pump has worked to its maximum capacity and the pressure on all high service areas has been increased from 3 to 10 pounds, equivalent to from 7 to 23 feet of elevation.

Complaints as to the scarcity of water in the northern part of the city have almost ceased; where they do exist they are due generally to defective service pipes and fixtures.

With the increased water supply to the pump and the consequent increased strain thrown upon it, its weak points have developed and it has required unceasing watchfulness, care, considerable labor and expense to prevent it from becoming disabled.

When the new aqueduct and reservoir now under construction by the United States have been completed, it is recommended that a 30-inch main be laid from the end of the 20-inch main at Seventeenth and U streets to the Champlain avenue tunnel shaft, and so arranged that a supply of water can be introduced into the city from this shaft. This will be of great benefit in increasing the pressures in the northwest section of the city, and in cases of accidents to supply other parts of the city. This main up Seventeenth street is 4,825 feet long.

A great many complaints as to the scarcity of water have been investigated personally by the superintendent, and he has found that very many of them arise from the fact that the stop-cocks at the curb have not been properly turned on. In other cases the trouble is that the service-pipes laid many years ago have become rusted and clogged up, thus materially interfering with the flow of water.

It has been since the organization of the water department the practice in many cases when a number of connections were to be made to a main in one square, to turn the water off from that square, make the taps, and then restore the flow to the service main. In doing this it sometimes happened that the valves were not fully opened and the old pressure and volume restored.

The old tapping machine used by the department for tapping mains under pressure was found to be unsatisfactory for the reason that the holes made in the main were often irregular in shape and not of the full size which it was the intention that they should be.

There are many instances of eels and fishes getting into service-pipes and interfering with the flow of water, and putting householders to trouble and expense in getting them removed. All these defects have been carefully considered, and the means of remedying them studied. New and improved methods and appliances have been adopted, which it is believed will be of benefit to the water-distribution system in the future.

A tapping machine has been adapted to our work, with which mains can be tapped without interfering with the valves on the supply or service mains. A new form of tap-cock has been devised which is made of better material and is stronger than the old form, and is provided with an eel and fish excluder on the end, which projects into the mains. This eel excluder consists of a brass cup in which are cut a number of slots about an eighth of an inch wide. The total area of the slots is greater than the area of the water-way in the tap-cock.

HOUSE CONNECTIONS.

There are numerous instances in the city where repairs and changes are needed in the water connections between houses and the public mains, which changes and repairs should be made by the property owners, but which they fail to make. Particular reference is made to stop-cock boxes and street washers which project above the pavements. Notices to owners and occupants fail to secure action, and the law should authorize the Commissioners to make repairs and changes when-

ever necessary for the public health, safety, and comfort, in all private connections with mains and other appliances situated in the public streets, and to assess the cost of the same against the property using the appliances, and collect the same as water rents are now collected.

WATER MAPS AND RECORDS.

The records of the water division are incomplete as regards the exact location of mains, connections, service, and street fixtures in general. The water employes have been engaged as far as practicable in getting together information and correcting the maps and plats, but the result is still far from satisfactory. There is needed in the water office a complete set of maps showing in detail each square in the city with all mains and stop valves and the exact location and size of all service-connecting pipes and street fixtures, and with the location and size of each building supplied with water. With such a series of maps as a basis, every new addition and change could be noted, and a complete record kept.

A survey will be needful to determine all the data required and the preparation of the maps and plats will be a work of considerable magnitude.

WATER TAXES.

In my last annual report I said:

I would also state that in my opinion the water main tax should be increased to $1\frac{1}{4}$ cents per square foot instead of $1\frac{1}{4}$, as at present. With the large-size mains in use and the extreme desirability and necessity of laying them on both sides of the streets, the present rate is not sufficient to cover the cost. The fund derived from this source also should pay some of the expense incidental to laying the large supply mains.

This recommendation may be more fully explained. The rate of $1\frac{1}{4}$ cents per square foot was fixed years ago, when it was deemed sufficient to lay one small main in the middle of the street for the service of both sides. For this purpose the rate was ample. Since the general introduction of asphalt pavements it is found to be objectionable to have a main in the middle of the street, necessitating the cutting of the pavement for each tap made or for repairs. It is found desirable to have a service main on each side of the street, and this doubles or very nearly so the cost of the service main for the supply of a square. Another fact bearing on the subject is that since the great increase in the value of real estate the average depth of lots on which assessments for water mains would be made has very materially decreased. Subdivisions have been changed in many instances so that a tier of lots which originally ran through to an alley or abutted against other lots is now converted into two tiers of lots, one tier fronting on the alley or on a small street replacing the alley. Now, to supply both these tiers of lots, there is necessary a main in the street and one in the alley, and the water tax received for both mains is approximately only what it would originally have been for the one street main. On account of the diminished depth of lots the revenues derived from laying the same length of mains is proportionately less than formerly. The avenues intersecting the streets diagonally make many small triangular and irregular shaped squares, which tend largely to increase the expense of laying service mains without increasing in a proportionate ratio the water taxes.

In its broad sense, I conceive the water tax to be, not the cost merely of laying the main in front of a piece of property, but a proportionate

share which this piece of property should bear of the cost of the water-distribution system, including not only the small mains but the large supply mains as well.

The first mains laid among a number of squares get the cream of the assessments, as all the corner lots are then assessed. Mains laid at a later period only get the interior lots on other streets, and in some cases get nothing. Also in the case of a supply main being laid no assessments are levied. I give herewith a table showing the cost of each main laid during the year and the amount of the assessment levied in consequence thereof.

TABLE E.—Statement showing the cost of mains laid during the fiscal year 1886-'87, and the assessments levied therefor.

Street.	Streets between.	Size.	Length.	Cost of material.	Cost of labor.	Total cost.	Amount of assessment.	Excess of assessment over cost.	Excess of cost over assessment.
		<i>Inch.</i>	<i>Lin. ft.</i>						
Center D	Second and Third southeast	6	388	\$185.15	\$206.94	\$392.09	\$198.94	\$469.26	\$193.15
Center N	Twenty-seventh and Twenty-eighth northwest	6	168	82.69	56.43	139.12	60.48	27.12	
Center Twenty third	E and F northwest	6	162	77.89	82.32	160.21	187.33		609.07
South side K	Twenty-first and Twenty-second northwest	6	595	270.73	338.34	609.07	409.13		221.65
Center Eighth	C and D southeast	6	512	306.41	326.37	632.78	625.62	80.69	
Center Fifth	E and G southeast	6	518	274.49	270.44	544.93	37.10		306.59
Center C	Ninth and Tenth southeast	6	306	147.33	196.56	343.89	384.49	128.08	
North side Rhode Island ave- nue	Ninth and Columbia northwest	6	288	130.76	125.65	256.41			
Center T	Seventh and Boundary northwest	6	420	250.93	223.75	474.68	302.40		172.28
West side New Jersey ave- nue	L and New York avenue northwest	3	570	290.53	132.53	423.06	32.20		390.86
Center Fourth	I and K northeast	6	415	198.75	225.28	424.13	582.86	158.73	
Center Third	C and Maryland avenue northeast	6	294	142.01	89.37	231.38	188.54		42.84
West side Delaware avenue	C and D northeast	6	416	202.52	281.25	483.77	110.54		373.23
North side D	Fifth and Sixth southeast	6	288	276.83	240.50	517.33	283.55		233.78
South side D	do	6	122	58.91		58.91	711.64	131.43	58.91
Center R	Eighteenth and Nineteenth northwest	6	462	282.46	297.75	580.21	909.82	171.34	
Center Twentieth	R and S northwest	6	616	370.13	368.35	738.48			
In alley	Twelfth and Thirteenth, U and V northwest	3	124	39.10	33.00	72.10			72.10
In alley	Third and Four-and-a-half, B and C southwest	3	493	136.76	89.09	225.85	137.93		87.92
Center South Carolina ave- nue	Sixth and Seventh southeast	6	629	268.59	346.48	615.07	552.54		62.53
North side Massachusetts avenue	North Capitol and New Jersey avenue northwest	6	725	290.87	398.33	689.20	469.53		219.67
South side I	Twelfth and Thirteenth northeast	6	587	200.56	296.49	497.05	318.82		178.23
West side New Jersey ave- nue	Q and Warner northwest	6	328	152.10	185.10	337.20	153.10		184.10
Center Tenth	V and W northwest	6	385	218.64	199.51	418.15	434.95	16.80	
Center W	Tenth and Eleventh northwest	6	288	139.44	153.58	293.02	96.80		196.22
Center New Hampshire ave- nue	H and I northwest	6	500	223.26	284.37	507.63	140.88		366.75
Center D	Seventeenth and Eighteenth northwest	6	311	133.86	221.87	355.73	571.44	215.71	
West side Vermont avenue	U and V northwest	6	421	212.12	300.57	512.69	43.84		468.85
In alley	First and Second, B and C northeast	3	363	82.20	72.20	154.40		246.38	154.40
East side North Capitol	M and Patterson northeast	6	328	137.36	196.26	333.62	580.00		59.39
In alley	Ninth and Tenth, L and M northwest	3	249	60.38	76.00	136.38	76.99		95.70
East side New Hampshire avenue	Q and R northwest	6	638	366.79	391.33	758.12	662.42		
Center Richardson	R and Boundary northwest	6	235	124.19	156.34	280.53	225.77		54.76
Center K	Twelfth and Thirteenth northwest	6	374	225.93	190.75	416.68	635.89	219.21	
In alley	Twelfth and Thirteenth, and K and L, southeast	3	385	93.56	78.69	172.27			172.27

Center Gales.....	6	491	93.58	301.50	583.67	2,178.98	1,595.31	.....
Center Sixteenth.....	6	414	188.59	370.78	692.64	850.17	157.53	.....
South side L.....	10	444	321.86	.....	.....	.....	.....	.....
South side L.....	10	879	461.77	.....	.....	.....	.....	.....
South side L.....	10	904	496.00	2,241.72	3,822.97	.....	.....	3,822.27
South side L.....	10	296	200.00	.....	.....	.....	.....	.....
South side L.....	10	248	200.40	.....	.....	.....	.....	.....
South side L.....	10	119	222.38	.....	.....	.....	.....	.....
East side Nineteenth.....	6	327	226.89	189.50	416.39	.....	.....	416.39
North side M.....	6	128	70.21	75.50	145.71	.....	.....	145.71
Center Twenty-ninth.....	6	216	105.69	91.87	197.56	281.25	83.69	.....
Center Second.....	6	663	322.90	478.05	955.38	785.17	.....	170.21
Center M.....	6	300	144.43	252.24	565.55	448.62	.....	116.93
Center C.....	6	602	313.31	125.50	251.53	597.78	346.25	.....
In alley.....	3	477	126.03	346.36	589.33	815.12	225.79	.....
Center S.....	6	508	242.97	371.18	744.88	650.77	.....	94.11
Center Jackson alley.....	6	780	373.70	98.28	302.10	508.64	206.54	.....
Center First.....	6	320	203.82	53.78	113.44	.....	.....	113.44
In alley.....	3	234	59.66	.....	.....	.....	.....	266.69
West side First.....	6	238	205.82	154.62	360.44	92.75	458.97	.....
Center Fourth.....	6	423	248.61	100.12	348.73	807.70	.....	42.14
South side P.....	6	465	226.51	227.87	454.38	412.24	.....	.....
Center Fourth.....	6	471	224.40	245.82	470.22	698.32	228.17	.....
In alley.....	3	284	74.40	146.62	221.02	161.38	.....	59.64
Center Second.....	6	168	170.04	201.32	430.18	249.73	.....	180.45
In alley.....	3	258	58.82	.....	.....	.....	.....	31.11
In alley.....	3	259	64.04	51.00	115.04	83.93	.....	539.67
Center Delaware avenue.....	6	405	311.17	228.50	539.67	.....	.....	450.32
Center Arthur.....	6	472	254.58	255.12	509.70	59.38	.....	94.28
In alley.....	3	432	69.28	25.00	94.28	204.07	97.07	.....
Center E.....	6	279	48.50	58.50	107.00	.....	.....	306.39
In alley.....	3	455	111.02	195.37	306.39	.....	.....	.....
Center Tennessee avenue.....	6	703	369.26	569.87	1,324.86	1,930.90	606.04	.....
Center A.....	6	140	109.50	.....	.....	.....	.....	.....
Center Twelfth.....	6	597	276.13	.....	.....	.....	.....	.....
West side Seventeenth.....	20	4,825	11,116.32	4,596.91	15,713.23	1,889.10	1,050.29	15,713.23
Center O.....	6	852	425.81	413.00	838.81	407.89	.....	197.10
Center Maryland avenue.....	6	582	307.99	297.00	604.99	126.85	.....	335.78
South side Boundary.....	6	497	274.13	188.50	462.63	.....	.....	105.50
In alley.....	3	218	60.00	45.50	105.50	.....	.....	.....
Center Stoughton.....	4	131	40.12	50.59	183.19	99.19	14.00	.....
Center Chapin.....	4	137	41.89	50.59	106.02	98.00	.....	.....
In alley.....	3	192	46.02	60.00	106.02	73.34	.....	32.68
Center E.....	6	576	304.08	385.25	689.33	320.83	.....	368.50
Center Twelfth.....	6	108	54.50	55.00	109.50	.....	26.24	109.50
Center E.....	6	411	252.47	250.00	502.47	528.81	.....	177.71
In alley.....	3	504	125.81	218.27	344.08	166.37	.....	13.26
West side Delaware avenue.....	6	374	246.77	207.87	454.64	441.38	.....	256.18
Center H.....	6	222	112.81	142.37	255.18	.....	.....	.....

Fifth and L northwest	6	7	3.19	9.50	12.69	.....	12.69
First and A southeast	6	6	2.73	12.50	15.23	.....	15.23
First and B southeast	6	6	2.73	12.50	15.23	.....	15.23
Seventeenth and L northwest	6	25	11.38	62.50	73.88	.....	73.88
First and L northeast	6	66	30.03	48.00	78.03	.....	78.03
Twelfth and O northwest	6	16	7.28	9.50	16.78	.....	16.78
Total .....	.....	.....	30,553.06	26,397.94	56,951.00	8,136.97	33,974.61

Cost of erecting fire hydrants:

Labor	\$850.00
Material	1,237.00
Total	2,087.00
Total cost of laying mains, intersections, and erecting fire hydrants	59,037.92
Total assessment levied in consequence of these mains	31,113.34
Excess of cost over assessment	27,924.58

From this it is seen that in some few cases the assessments are in excess of the cost of the mains, while in the majority of cases the cost is in excess of the assessments. The total cost of all mains laid and fire hydrants erected during the year (excluding the 12-inch main laid and paid for by the Congressional Library Commission) was \$59,037.92, while the assessment levied in pursuance of law for these mains was \$31,113.34. This shows the total cost of mains over assessments to be \$27,924.58. This latter sum does not represent the total assessments levied during the year, which included besides these all others made during the year for mains laid or completed prior to the beginning of the year, and all cases where special permits were given to connect property previously unassessed with mains, and all cases of payments under the delinquent water-main tax notices of May 7, 1887.

It is therefore apparent that the total cost of the mains and fire hydrants added to the distribution system during the year was nearly double the amount of the legal assessments levied in consequence thereof.

Excluding the 20-inch supply main on Seventeenth street, which cost \$15,713.23 and for which no assessment was levied, and that portion of the 10-inch main on L street laid as a supply main and which cost \$3,823.27, and for which no assessment was levied, the total cost of mains laid purely as service mains, with fire hydrants, was \$39,502.42. For these latter the assessment levied was \$31,113.34. This shows the total cost of all service mains and fire hydrants provided during the year to be \$8,389.08 in excess of the assessments levied therefor.

During the spring of the present year a list was compiled showing each piece of property in the District of Columbia which was supplied with water without having paid the water-main tax. Upon the 11th of May the following order was issued by the Commissioners:

Ordered, Referring to the list submitted by the water department of the property which, upon careful investigation of the books, appears to have become liable for water main tax of which no evidence of payment exists on the records of the department, a notification to each of the premises in question will be issued, showing the amount of tax for which they are severally liable, with request that the taxes be paid, or cause shown why it should not become a lien; return to be made in thirty days."

In accordance with this order notices were sent out to the owners of each piece of property on the list. These notices elicited a vast amount of correspondence, inquiry, explanation, and protest. Many people paid the assessments, but the greater number have not done so. At the present writing the question of further action is still under consideration, the water office having received no final instructions regarding the matter.

SERVICE PRESSURES AND LARGE MAINS.

It is interesting to note the changes in pressure in various parts of the city as taken ten years ago and at the present time.

The following table has been prepared which explains itself. The + signs in the fifth and eighth columns indicate an increase of pressure in 1887 over those in 1877, and the — sign a decrease.

TABLE F.—Showing the elevations and pressure of water at various points in the city of Washington.

Pressure at—	Eleva- tions.	A. M. pressure to the square inch between 6 and 10.			P. M. pressure to the square inch between 2 and 6.		
		Novem- ber, '77.	July 21, 1887.	Differ- ence.	Novem- ber, '77.	July 21, 1887.	Differ- ence.
Northwest.							
Corner Third street and Pennsylvania avenue northwest.....	8.78	Lbs. 20	Lbs. 22½	Lbs. + 2½	Lbs. 32½	Lbs. 22½	Lbs. -10
Corner Four-and-a-half street and Penn- sylvania avenue northwest.....	11.23	30	22	- 8	30	22	- 8
Corner Seventh street and Pennsylvania avenue northwest.....	10.40	29	22½	- 7½	30	22½	- 7½
Corner Ninth street and Pennsylvania avenue northwest.....	12.58	27	22	- 5	28	22	- 6
Corner Twelfth street and Pennsylvania avenue northwest.....	13.03	27	21½	- 5½	30	21½	- 8½
Corner Fifteenth street and Pennsylva- nia avenue northwest.....	25.23	23	15½	- 7½	25	15½	- 9½
Corner Eighteenth street and Pennsylva- nia avenue northwest.....	60.17	13	16	+ 3	15	16	+ 1
Corner Twenty-first and I streets north- west.....	67.55	10	15	+ 5	12½	15	- 2½
Corner Twenty-fifth and K streets north- west.....	49.38	26	27	+ 1	27½	27	- ½
Corner Seventeenth and F streets north- west.....	47.66	19½	19½	.....	20	19½	- ½
Corner Twenty-seventh and G streets northwest.....		39	37	- 2	39	37	- 2
Twenty-fourth and F streets northwest..	55	25	24	- 1	25	24	- 1
First and M streets northwest.....	76	11	14	+ 3	13	14	+ 1
Fourth and M streets northwest.....	80	8	13	+ 5	10	13	+ 3
Ninth and M streets northwest.....	81	9	14	+ 5	10	14	+ 4
Eighteenth and M streets northwest.....	58.22	23	25	+ 2	23½	25	+ 1½
Fourth and K streets northwest.....	48.50	22½	20	- 2½	25	20	- 5
Sixth and K streets northwest.....	55	21	18	- 3	22½	18	- 4½
First and K streets northwest.....	39.50	22½	29	+ 7½	25	29	+ 4
New York avenue and K street north- west.....	64.40	17½	14½	- 3	20	14½	- 5½
Twelfth and K streets northwest.....	73	13	15½	+ 2½	15	15½	+ ½
Eighteenth and K streets northwest.....	66.10	20	25	+ 5	20	25	+ 5
Twenty-first and K streets northwest....	56.10	25	28	+ 3	25	28	+ 3
Fourth and R streets northwest.....		8	15½	+ 7½	10	15½	+ 5½
Ninth and R streets northwest.....	79	7	12	+ 5	8	12	+ 4
Tenth and R streets northwest.....	81.50	7	17½	+ 10½	7½	17½	+ 10
Twelfth and R streets northwest.....	89.00	4	17	+ 13	5	17	+ 12
Seventeenth and R streets northwest....	80	9	23½	+ 14½	9½	23½	+ 14
Nineteenth and R streets northwest.....	90	10	21	+ 10	10	21	+ 11
Twentieth and R streets northwest.....	92.30	7	21	+ 14	7½	21	+ 13½
Sixth and S streets northwest.....	80.00	7	11	+ 4	7½	11	+ 3½
Seventh and S streets northwest.....	81.25	7	11	+ 4	7½	11	+ 3½
Eighteenth and S streets northwest.....	91	7	22	+ 15	7½	22	+ 14½
Fourth and O streets northwest.....	78	8	14	+ 6	10	14	+ 4
Ninth and O streets northwest.....	91	3	9	+ 6	15	9	- 6
Front of City Hall northwest.....		14	7	- 7	15	7	- 8
Corner Seventh and E streets north and northwest.....	39.22	16½	10	- 6½	18	10	- 8
Corner Seventh and F streets northwest..	42.80	22	14	- 7	24	14	- 10
Front of Ebbit House northwest.....		18	10½	- 7½	19	10½	- 8½
Corner Seventh and H streets north west.	33.78	22½	16	- 6½	24	16	- 8
Louisiana avenue opposite Fifth street..		19	11	- 8	20	11	- 9
Corner Ninth and H streets northwest...	46.63	19	14½	- 4½	20	14½	- 5½
Georgetown.							
Corner Twenty-second and O streets north- west.....		7	10	+ 3	7½	10	+ 2½
Aqueduct Bridge northwest.....		24	27	+ 3	25	27	+ 2
Corner Twenty-ninth and Canal streets northwest.....	36.3	37½	41	+ 3½	37½	41	+ 3½
Corner Thirty-second and M streets northwest.....	70.25	17½	20	+ 2½	19	20	+ 1
Corner Water and Potomac streets north- west.....	12	32½	48	+ 15½	33	48	+ 15
Corner Thirtieth and Water streets north- west.....	36	42½	48	+ 5½	42½	48	+ 5½
Corner Thirtieth and O streets northwest.	85.4	40	45	+ 5	45	45	=

500 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

TABLE F.—Showing the elevations and pressure of water at various points in the city of Washington—Continued.

Pressure at—	Elevations.	A. M. pressure to the square inch between 6 and 10.			P. M. pressure to the square inch between 2 and 6.		
		November, '87.	July 21, 1887.	Difference.	November, '77.	July 21, 1887.	Difference.
<i>Southwest.</i>							
Corner First and G streets southwest	8.40	<i>Lbs.</i> 30	<i>Lbs.</i> 15	+15	<i>Lbs.</i> 32½	<i>Lbs.</i> 15	-17½
Corner First and I streets southwest.....	8.25	30	15	-15	32½	15	-17½
Corner Four-and-a-half street and Virginia avenue southwest	17.50	26	14	-12	27½	14	-13½
Corner Four-and-a-half and F streets southwest.....	16.50	26	13	-13	27½	13	-14½
Corner Four-and-a-half and K streets southwest	15.10	27	13½	-13½	28	13½	-14½
Corner Four-and-a-half and P streets southwest		26	12	-14	27½	12	-15½
Corner Seventh and D streets southwest..	26.50	22½	10	-12½	25	10	-15
Corner Seventh and G streets southwest..	24.30	22½	9	-13½	25	9	-16
Corner Seventh and Water streets southwest	10.60	27½	15½	-12	30	15½	-14½
Corner Tenth and B streets southwest ...	29.80	22½	11	-11½	25	11	-14
Corner Eleventh and Water streets southwest	10.10	27	16	-11	29	16	-13
Corner Tenth and E streets southwest ...	32.80	18	7	-11	20	7	-13
Corner Thirteenth and B streets southwest	36.00	15	6	-9	20	6	-14
Corner Thirteenth and C streets southwest	38.00	15	5	-10	18	5	-13
Corner Fourteenth and C streets southwest	34.00	15½	6	-9½	17½	6	-11½
<i>Northeast.</i>							
Corner Third and H streets northeast....	44.50	15	22½	+7½	15½	22½	+7
Corner Fifth and H streets northeast	39	17½	23	+5½	18	23	+5
Corner Ninth and H streets northeast....	34.40	20	22	+2	21	22	+1
Corner Eleventh and H streets northeast..	41.50	17	20	+3	18	20	+2
H between Fourteenth and Fifteenth streets northeast	40	15	17	+2	15	17	+2
Corner First and K streets northeast.....	35	16	32½	+16½	17	32½	+15½
Corner Second and K streets northeast....	46	25	29	+4	26	29	+3
Corner Fifth and M streets northeast.....	68	15	20	+5	15½	20	+4½
Corner Fifth and L streets northeast.....	47.50	24½	28	+3½	25	28	+3
Corner Sixth and L streets northeast.....	46.05	24½	29	-4½	25	29	+4
<i>Southeast.</i>							
Corner Second street and Pennsylvania avenue southeast.....	86	5	3½	-1½	5	3½	-1½
Corner Third street and Pennsylvania avenue southeast	81.20	7	7	.....	7	7	.....
Corner Eighth street and Pennsylvania avenue southeast.....	74	5	10	+5	5	10	+5
Corner Thirteenth street and Pennsylvania avenue southeast		7½	11½	+4	7½	11½	+4
Corner Eighth and E streets southeast...	70	7½	11	+3½	7½	11	+3½
Corner Eighth and I streets southeast....	61.30	10	14	+4	10	14	+4
Corner Eleventh and D streets southeast..	65.67	5	9	+4	5	9	+5
Corner Eleventh and N streets southeast ..	32	24	22	+2	22½	22	-½
Corner Fourteenth and E streets southeast		6	11	+11	6	11	+5
Corner Nineteenth and C streets southeast		16	15	-1	16	15	-1

It will be seen from this table that over a large part of the city the pressure is greater than it was in 1877, notwithstanding the increased number of consumers. There are, however, sections where the pressure is much less than it was in 1877, and this is notably the case with the southwestern section. This section is deficient in water supply, the pressure being entirely inadequate and from 9 to 17½ pounds less than in 1877. It will be necessary to take measures for the relief of this sec-

tion, and this relief can only be afforded by laying some large supply mains. The pressures on Capitol Hill are approximately the same as they were in 1877, being slightly greater in some places and slightly less in others. Another marked and, when fully appreciated, startling falling off of pressure is in the principal business portion of the city, where the pressures are insufficient for the best fire protection, and show a decided falling off since 1877. In this section of the city the pressure should be maintained as high as possible, and the volume of water should be abundant in order to furnish proper fire protection to the large amount of valuable property therein.

A study of the distributing system shows that the cause of the deficiency in the business portion of the city and in the southwest is that the regions are deficient in supply mains. The 12 inch main along Pennsylvania avenue from the Aqueduct Bridge is the only one having any pretensions to being a supply main running through the sections under discussion. The great Government buildings, fountains, fish-ponds, and grounds, and the closely built-up regions in its vicinity, make such draughts upon this main as to reduce the pressure in it enormously, and render it incapable of carrying the amount of water needed in the regions which it is intended to supply.

It is possible and practicable to re-enforce this main where it most needs it, by bringing to it an additional supply from the large 30-inch main on K street. This should be done, and a large main continued into the southwest section to make up the deficiency there.

In order to accomplish the desired improvement, I suggest that the following mains be laid:

First. A 24-inch main on Fourteenth street from the 30-inch main on K street south to a junction with the main on Pennsylvania avenue, a distance of 2,400 feet. This main, with its connections and the necessary valves, will cost about \$15,000.

Second. A 20-inch main on Fourteenth street west south from Pennsylvania avenue to B street south, thence east along B street to Tenth street, connecting with the 20-inch main now on B street, a total distance of 4,800 feet. This 20-inch main, with the necessary valves and connections, will cost about \$16,000. These two mains, with the others in existence, will encircle the most important business portion of the city, in which also are most of the large buildings of the General Government, with large supply mains.

Inconvenience has been experienced during the past year from the lack of stops on the 36-inch main on L street, and from the lack of provision for connecting this 36-inch main on L street with the 30-inch main on K street at those times when it is necessary to shut off the water from the 36-inch main.

There is no stop on the 36-inch main between Twenty-sixth and Twelfth streets, a distance of over $1\frac{1}{2}$ miles. Consequently any necessary work on this length requires the shutting off of the water from the main for the entire distance, and much time is expended and expense and inconvenience caused in consequence.

There is no division stop on the 30-inch main on K street from Twenty-sixth street to Thirteenth street, a distance of $1\frac{1}{2}$ miles.

Now, in order to provide against a shortage of water, due to an accident or necessary stoppage on either of these large 36-inch and 30-inch mains, a cross connection should be made between them and division stops inserted in such a manner that water can be supplied from either main. This cross connection should be 30 inches in diameter, and lo-

cated at Seventeenth street, and the division stops just west thereof. This work, it is estimated, will cost about \$5,500.

The works outlined above, the 24-inch main on Fourteenth street, the 20-inch main on Fourteenth and B streets, and the cross connection and valves on Seventeenth street, involving a total expenditure of \$36,500, are of great importance and embody the most urgent present measures to improve the distribution system. They will be just as necessary after the new works for "increasing the water supply" are completed as they are now; for, in order to derive the greatest benefit from this increased supply, it will be necessary to confine it to the higher levels of the city and use the present supply mains for the lower levels, provision being made for their common use and interchange whenever necessary.

For further evidence of the desirability of the main proposed and its necessity, attention is invited to the table of pressures taken along the lines of the principal mains during the day and night and the chart accompanying it showing the loss of pressures along the mains.

The regions for the benefit of which the main is proposed are mostly supplied by the 12-inch main along Pennsylvania avenue. An inspection of the chart will show how rapidly the loss of pressure increases in this main from about Eighteenth street to Thirteenth street. This loss is due, beyond all doubt, to the heavy draught on the main by the great public buildings of the General Government—the War, State, and Navy Building, White House, and Treasury. A comparison of the losses of pressure in the different mains indicate the comparative advantages of large mains.

The estimated revenues of the water division for 1888-'89 under existing rates and conditions do not justify including in the estimates the full cost of the works proposed. I have included the sum of \$15,000 for large mains which it is proposed to expend in the most urgent work of laying the 24-inch main from the 30-inch main on K street, south, along Fourteenth street to Pennsylvania avenue.

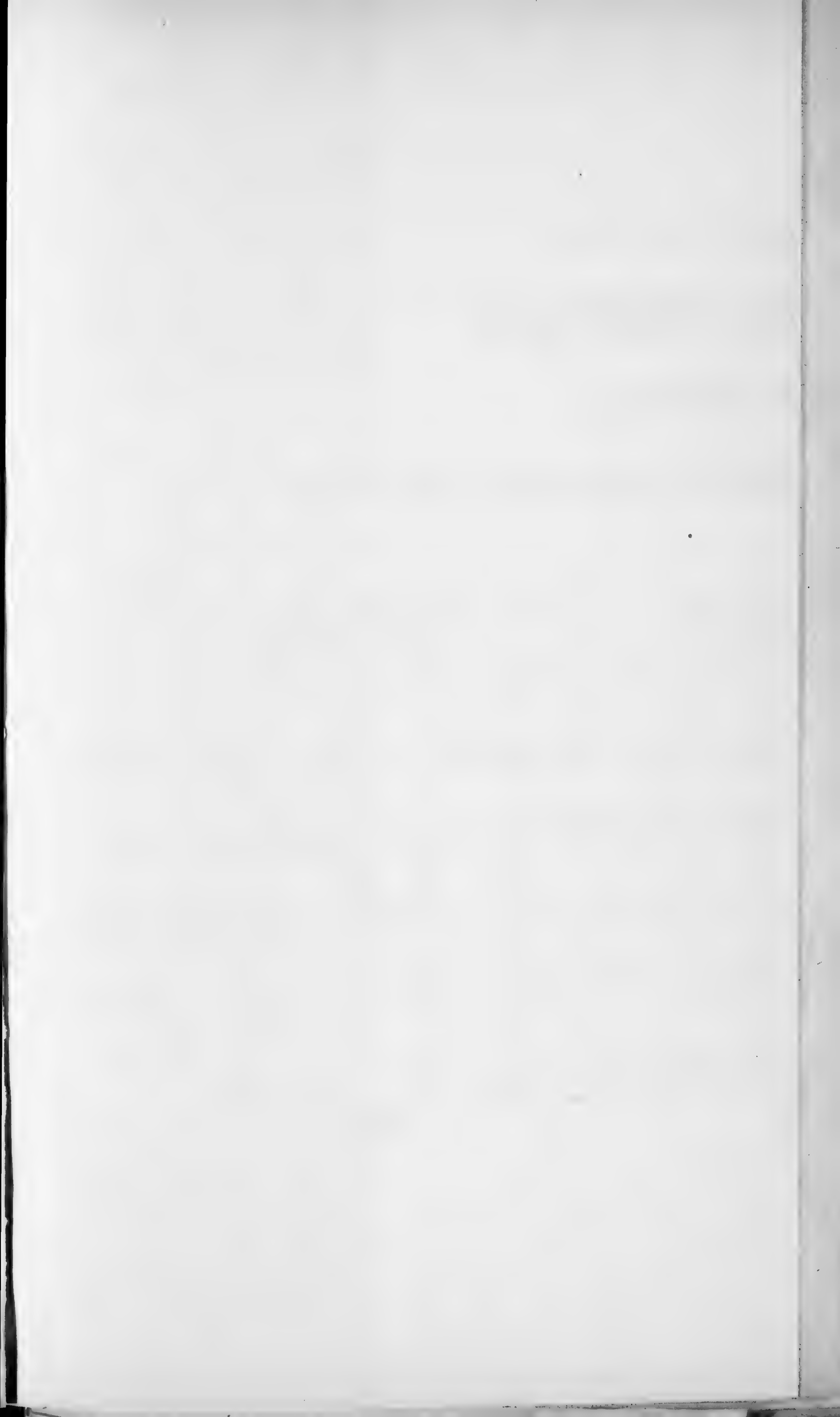
It is proper to state here, that in the portions of the city which these mains are intended to benefit are situated nearly all the great buildings of the General Government, and it is beyond doubt the continuous and enormous consumption of water in these buildings that does so materially reduce the pressures and render necessary the large mains proposed. In these portions mentioned are the buildings of the War, State, and Navy Departments, the White House, with its fountains, the Treasury and Interior Departments, the city post-office, and the Post-Office Department, the Bureau of Engraving and Printing, the Agricultural Department, the Smithsonian, National Museum, and new Army Medical Buildings, and the Fish Commission, which, to keep its propagating ponds fresh, uses an immense quantity of water.

QUALITY OF THE WATER.

There has been no perceptible change in the quality of the water during the present year. This spring the weather was not propitious for the plant growth in the distributing reservoir, which, in some other years, has caused a disagreeable fishy smell, and in consequence this was almost entirely absent. As usual for large portions of the year, the water has been often muddy and uninviting in appearance.

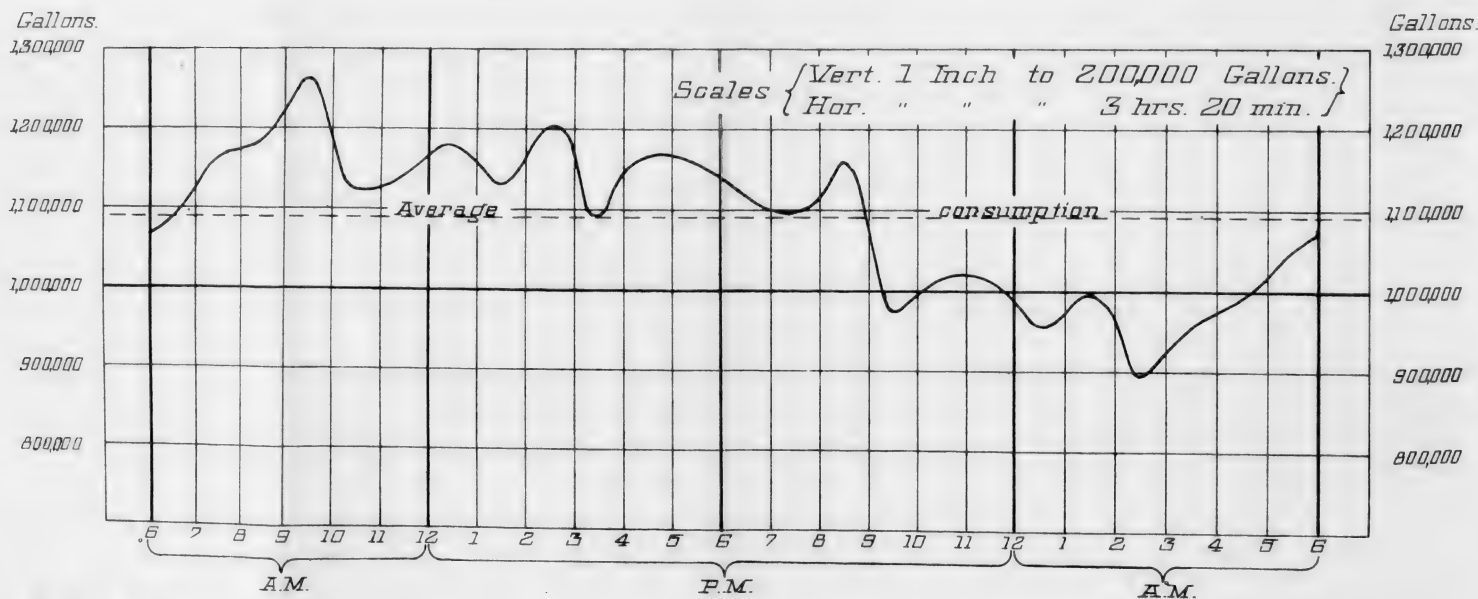
CONSUMPTION, USE, AND WASTE OF POTOMAC WATER.

There is submitted herewith a table showing the hourly consumption of Potomac water during June for each of the past seven years. This



Curve showing Variations
IN
HOURLY CONSUMPTION
OF
POTOMAC WATER.

Mean of observations taken in June of each year, 1881-1887.



H Ex1 pt6 50 1

consumption is measured by cutting off the supply to the reservoir, permitting the water to flow into the mains as usual, and hourly measuring the diminution of the height of the water in the reservoir. From this diminution in height the quantity drawn off is computed.

To determine with certainty that this amount does go into the mains and is not lost by leakage from the reservoir, the experiment has been tried of isolating the water in the reservoir from both inlet and outlet for twenty-four hours, in the mean time supplying the city by the conduit around the reservoir. The evidence was conclusive that the reservoir is perfectly tight, and hence that the mains receive the amounts of water shown by the table. The table also gives the average hourly consumption of water as derived from these seven yearly observations, and this average has been platted and is given herewith:

TABLE G.—Hourly consumption of Potomac water.

[In gallons per hour.]

	June 27 and 28, 1881.	June 26 and 27, 1882.	June 26 and 27, 1883.	June 27 and 28, 1884.	June 26 and 27, 1885.	June 25 and 26, 1886.	June 24 and 25, 1887.	Average per hour.
6 to 7 a. m.	1, 124, 438	1, 267, 216	1, 128, 889	988, 675	982, 633	989, 826	1, 128, 854	1,087,218
7 to 8 a. m.	1, 264, 135	1, 286, 236	987, 016	1, 129, 187	1, 122, 288	1, 130, 499	1, 269, 034	1,166,913
8 to 9 a. m.	1, 264, 230	1, 405, 776	1, 127, 184	987, 403	1, 261, 612	1, 129, 728	1, 127, 206	1,186,019
9 to 10 a. m.	1, 262, 317	1, 264, 164	1, 126, 361	1, 268, 646	1, 400, 794	1, 270, 012	1, 267, 179	1,265,639
10 to 11 a. m.	1, 121, 297	1, 263, 185	1, 125, 471	1, 126, 861	839, 891	1, 128, 082	1, 266, 198	1,124,426
11 to 12 m.	1, 260, 604	1, 122, 007	1, 265, 100	844, 637	1, 259, 031	1, 127, 304	1, 124, 685	1,143,338
12 m. to 1 p. m.	1, 119, 771	1, 401, 422	983, 101	1, 406, 759	978, 564	1, 126, 526	1, 264, 344	1,182,926
1 to 2 p. m.	1, 147, 170	1, 400, 211	758, 008	984, 010	1, 257, 281	1, 125, 756	1, 263, 362	1,133,685
2 to 3 p. m.	1, 118, 604	1, 259, 153	1, 290, 537	1, 264, 283	1, 256, 301	1, 124, 978	1, 122, 164	1,205,145
3 to 4 p. m.	1, 210, 503	1, 118, 424	1, 121, 379	842, 310	976, 439	1, 124, 199	1, 261, 508	1,093,537
4 to 5 p. m.	1, 117, 846	1, 257, 305	1, 176, 402	1, 261, 657	1, 115, 211	1, 123, 422	1, 120, 516	1,167,485
5 to 6 p. m.	1, 256, 767	1, 395, 857	993, 621	1, 121, 529	975, 168	1, 122, 651	1, 259, 654	1,160,749
6 to 7 p. m.	1, 116, 360	1, 255, 233	978, 960	1, 130, 802	1, 113, 759	1, 121, 873	1, 118, 868	1,119,407
7 to 8 p. m.	976, 230	1, 393, 561	992, 252	980, 108	1, 112, 975	1, 121, 095	1, 118, 092	1,099,187
8 to 9 p. m.	1, 254, 590	1, 253, 169	1, 145, 143	979, 514	1, 112, 203	1, 120, 325	1, 256, 927	1,160,267
9 to 10 p. m.	975, 362	1, 113, 106	976, 589	978, 920	833, 604	979, 644	976, 931	976,308
10 to 11 p. m.	835, 583	1, 251, 314	1, 115, 575	978, 327	972, 034	979, 053	976, 337	1,015,460
11 to 12 m't.	974, 337	1, 111, 460	1, 114, 557	977, 733	971, 435	978, 455	975, 743	1,014,817
12 m't to 1 a. m.	973, 791	1, 110, 682	835, 344	977, 139	832, 193	977, 863	975, 149	954,594
1 to 2 a. m.	1, 127, 191	971, 210	709, 740	976, 543	1, 108, 905	977, 272	1, 113, 729	997,798
2 to 3 a. m.	972, 617	1, 109, 231	723, 309	836, 566	831, 175	837, 190	973, 877	897,709
3 to 4 a. m.	833, 234	1, 385, 453	834, 114	836, 130	830, 734	976, 165	973, 283	952,730
4 to 5 a. m.	1, 110, 346	1, 107, 488	972, 654	835, 694	968, 637	975, 575	972, 689	991,869
5 to 6 a. m.	1, 109, 628	1, 245, 001	833, 309	1, 113, 580	1, 106, 287	974, 983	972, 095	1,050,697
Total 24 hrs.	26, 525, 991	29, 727, 864	24, 314, 715	24, 827, 013	25, 219, 194	25, 542, 476	26, 878, 424	26,147,953

This table and curve shows that the average consumption is 1,089,498 gallons per hour, or 26,147,952 gallons per day, or, assuming a population of 200,000, that the average per-capita consumption is 130 gallons per day. The table also shows that the maximum consumption is between 9 and 10 a. m., when it is 1,265,639 gallons per hour, or at the rate of 30,375,336 gallons per day, or about 150 gallons per day per capita; and that the minimum consumption is between 2 and 3 a. m., when it is 897,709 gallons per day, or about 100 gallons per day per capita, based on an assumed population of 200,000.

These figures indicate that if the minimum rate of consumption during the quietest dead hour of the night were maintained throughout the whole 24 hours the consumption would be over 21,500,000 gallons, or about four-fifths of the entire daily consumption.

This of course indicates an enormous waste, and efforts have been made to trace this waste. Gauges have been established in the fire-

engine houses and police stations situated in the various parts of the city, and daily records of pressure are kept. On a certain day, the 15th of each month, hourly readings of these gauges are taken. From the record of these observations the following table has been prepared, which shows the hourly loss of pressure due to the consumption of water in the vicinity of the gauge. From this table the accompanying sheet of curves has been constructed.

TABLE H.—Hourly loss of pressure (in pounds) of Potomac water at localities designated.

The tabular quantity is obtained by subtracting the mean of six monthly readings of each gauge from the static pressure due to the hydraulic head on each corresponding gauge. For example:

	Pounds.
Static pressure due to hydraulic head at police station No. 4.....	51.75
Mean of six monthly gauge readings at police station No. 4	15.50
Difference or loss of pressure, being the tabular quantity	36.25

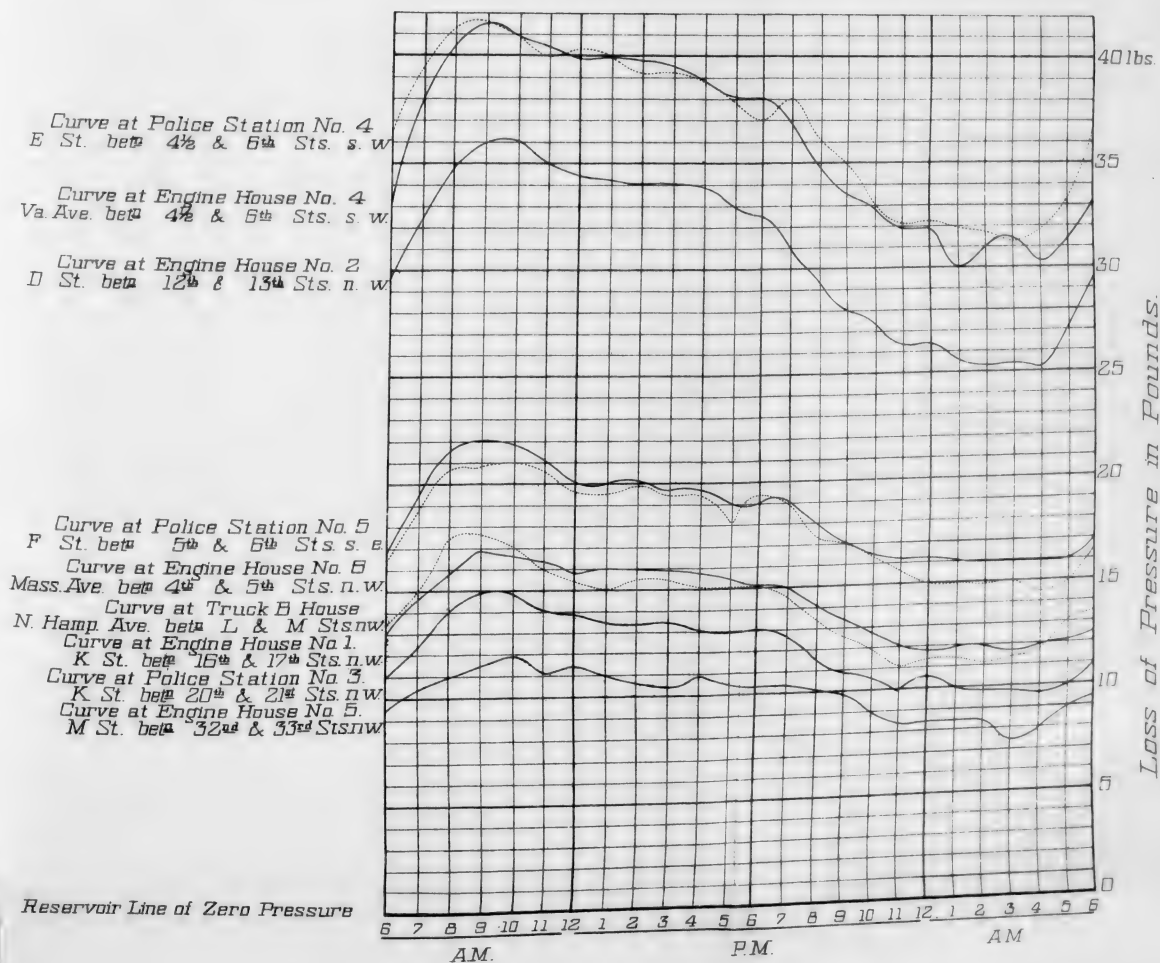
Hour.	Hourly loss of pressure at—								
	Police station No. 4, E street south-west.	Engine-house No. 4, Virginia avenue south-west.	Engine-house No. 2, D street north-west.	Police station No. 5, F street south-east.	Engine-house No. 6, Massachusetts avenue north-west.	Truck-house B, New Hampshire avenue north-west.	Engine-house No. 1, K street north-west.	Police station No. 3, K street north-west.	Engine-house No. 5, M street, Georgetown.
A. M.									
6	36.25	33.07	29.58	16.88	16.43	13.31	12.91	10.91	9.47
7	39.42	38.06	32.33	19.55	18.76	14.98	14.57	12.24	10.30
8	41.25	40.40	34.75	21.71	20.68	17.48	15.74	13.99	10.89
9	41.42	41.56	35.91	22.05	20.76	17.64	16.82	14.83	11.47
10	40.92	40.98	36.08	21.80	20.93	17.14	16.66	14.83	11.97
11	39.92	40.48	35.00	21.13	20.59	15.98	16.41	14.16	11.14
12	40.25	39.81	34.41	20.05	19.68	15.31	15.74	13.82	11.47
P. M.									
1	39.92	39.81	34.25	20.13	19.51	14.98	15.99	13.49	10.97
2	39.75	39.15	34.08	20.21	19.84	15.48	15.91	13.41	10.64
3	39.58	39.23	34.16	19.63	19.34	15.31	15.82	13.49	10.30
4	38.75	38.73	33.83	19.71	19.34	15.14	15.74	13.08	10.80
5	38.08	38.06	32.83	18.96	18.68	15.14	15.49	12.91	10.47
6	37.25	38.06	32.50	19.04	19.34	15.14	15.16	13.08	10.30
7	37.92	36.90	30.91	19.04	18.84	14.58	14.99	12.74	10.30
8	36.08	34.73	29.41	17.88	17.26	13.31	14.16	11.58	10.14
9	35.08	33.56	28.00	17.05	17.01	12.58	13.41	10.82	9.80
10	33.08	32.90	27.41	16.46	16.26	11.98	12.74	10.66	8.97
11	32.08	31.81	26.33	16.21	15.59	11.14	12.16	9.91	8.30
12	32.25	31.81	26.41	16.21	14.93	11.31	11.74	10.66	8.47
A. M.									
1	31.92	30.15	25.66	16.09	14.93	11.31	11.83	9.99	8.47
2	31.75	28.56	25.33	15.88	14.84	11.14	11.83	9.74	8.47
3	31.25	31.56	25.50	15.84	15.01	11.31	11.66	9.74	7.30
4	31.75	30.31	25.25	15.88	14.51	11.64	11.88	9.66	7.80
5	33.08	31.23	27.16	15.96	14.93	13.14	12.16	9.91	8.97

These curves of loss of pressure may be considered as approximate curves of consumption ; and, taken as they are in widely different parts of the city, and having the same general form, with nothing abnormal about any of them, they would seem to indicate that the same general laws govern the hourly consumption throughout the city, and that the cause of the waste of water is widespread and not confined to any one point or any one locality.

In further effort to determine this question of waste, pressures both during the night and day were taken along the lines of the principal supply mains and the losses of pressure computed and platted. The table and sheet of curves is submitted herewith :

CURVES SHOWING LOSS OF PRESSURE

AT THE
Localities Designated,
DUE TO
Hourly Variations in Consumption
OF
POTOMAC WATER.



Eng'r Dep't. D. C.
Sept. 1887.

TABLE K.—Pressures and losses of head along lines of principal supply mains.

[Lengths to plug are from distributing reservoir.]

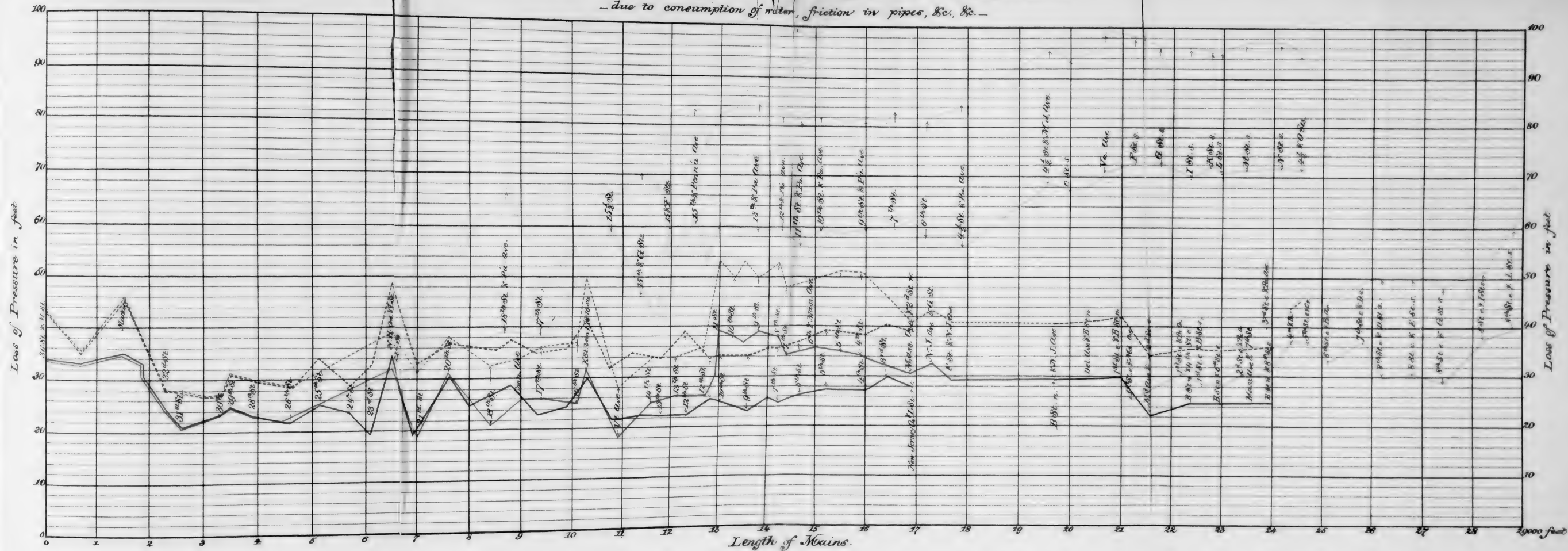
Location.	Size of main.	Length to plug.	Hydraulic head.	Day.			Night.		
				Pressure.		Lost head.	Pressure		Lost head.
				Lbs.	Feet.		Lbs.	Feet.	
Northwest cor. 36th and M, NW	{ 12 36 30 }	5,980	91.4	21	48.51	42.89	25	57.75	33.65
Southwest cor. 34th and M, NW	{ 12 36 30 }	6,750	67.5	14	32.34	35.16	15	34.65	32.85
Southwest cor. market-house and M, NW	{ 12 36 30 }	7,490	77.9	14	32.34	45.56	18	41.58	35.32
North side M, bet. 32d and market-house, NW	{ 12 36 30 }	7,900	76.9	17	39.27	37.63	19	43.89	33.01
In front engine-house, M, between 32d and 33d, NW	12		76.9	19	43.89	33.01	20	46.20	30.70
Southeast cor. 32d and M, NW	12	8,320	74.9	20	46.20	28.70	22	50.82	24.08
Southwest cor. 31st and M, NW	12	8,640	88.1	26	60.06	28.04	29	66.99	21.11
Southeast cor. Jefferson and M, NW	12	9,060	94.0	29	66.99	27.01	31	71.61	22.36
Southeast cor. 30th and M, NW	12	9,320	99.9	31½	72.76	27.14	33	76.23	23.67
Northwest cor. 29th and M, NW	12	9,620	103.5	31½	72.76	30.74	34	78.54	24.92
Northwest cor. 28th and M, NW	12	9,800	101.7	31	71.61	30.09	34	75.54	23.16
Northwest cor. 26th and Pa. ave., NW	12	10,540	95.9	29	66.99	28.91	32	73.92	21.98
Southwest cor. 25th and L, NW	36	11,150	84.7	22	50.82	33.88	26	60.06	24.64
Northeast cor. 24th and L, NW	36	11,750	81.2	22½	51.97	29.23	25	57.75	23.45
Northeast cor. 23d and L, NW	36	12,100	86.1	23	53.13	32.97	29	66.99	19.11
New Hampshire ave. and L, NW	36	12,500	92.3	19	43.89	48.41	25	57.75	34.55
Northwest cor. 21st and L, NW	36	12,850	95.3	27	62.37	32.93	33	79.23	19.07
Northeast cor. 20th and L, NW	36	13,540	97.3	26	60.06	37.24	29	66.99	30.31
Southeast cor. 19th and L, NW	30	14,000	94.3	25	57.75	36.55	30	69.30	25.26
Southeast cor. 18th and L, NW	30	14,460	93.6	25	57.75	35.85	29	66.99	26.61
Northwest cor. Conn. ave. and L, NW	36	14,900	92.9	24	55.44	37.46	28	64.68	28.22
Northwest cor. 17th and L, NW	36	15,350	95.0	26	60.06	34.94	31	70.61	23.39
Northeast cor. 16th and L, NW	36	15,950	93.4	25	57.75	35.65	30	69.30	24.10
Northwest cor. 15th and L, NW	36	16,320	92.2	22	50.82	41.38	27	62.37	29.83
Northwest cor. Vermont ave. and L, NW	36	16,780	77.1	19½	45.04	32.06	24	55.44	21.66
Northwest cor. 14th and L, NW	36	17,080	76.5	18	41.58	34.92	23½	54.28	22.22
Northwest cor. 13th and L, NW	36	17,740	61.7	12	27.72	33.98	17	39.27	22.43
Northwest cor. 12th and L, NW	36	18,200	59.3	11	25.41	33.89	16	36.96	22.34
Northeast cor. 11th and L, NW	36	18,700	62.8	12½	28.87	33.93	16	36.96	25.84
Northwest cor. 10th and L, NW	36	18,800	67.7	14½	33.49	34.21	18½	42.73	24.97
Northwest cor. 9th and L, NW	36	19,380	69.2	15	34.65	34.55	20	46.20	23.00
Northeast cor. 8th and L, NW	36	19,840	72.0	15½	35.60	36.20	20	46.20	25.80
Southwest cor. 7th and L, NW	30	19,950	73.1	16	36.96	36.14	21	48.51	24.59
Northwest cor. 6th and L, NW	36	20,520	79.5	18½	42.73	36.77	23	53.13	26.37
Northeast cor. 5th and L, NW	36	20,980	83.1	19	43.80	39.21	24	55.44	27.66
Northeast cor. 4th and L, NW	36	21,760	92.1	23	53.13	38.97	28	64.68	27.42
Northwest cor. 3d and L, NW	36	21,900	94.4	23	53.13	41.27	28	64.68	29.72
Northeast cor. New Jersey ave. and L, NW	30	22,400	97.2	25	57.75	39.45	30	69.30	27.90
Washington Circle and 23d, NW	12	12,100	80.2	20	46.20	34.00	22	50.82	29.38
Southeast cor. 18th and Pa. ave., NW	12	14,820	84.8	12	27.72	67.08	20	46.10	38.60
Northwest cor. 17th and Pa. ave., NW	12	15,280	89.2	16	41.58	47.62	22	50.82	38.38
Northeast cor. 15½ and Pa. ave., NW	12	16,700	93.8	12½	28.87	64.93	15	34.65	59.15
Northeast cor. 15th and G, N. W.	12	17,160	98.8	12	27.72	71.08	23	53.13	45.67
West side 15th bet. F and G, near G, NW	12	17,200	99.8	14	32.34	67.46	25	57.75	42.05
West side 15th bet. F and G, near F, NW	12	17,410	111.4	11	25.41	85.99	22½	51.97	59.43
Southeast cor. 15th and F, NW	12	17,620	110.4	12½	28.87	81.53	24	55.44	54.96
Southeast cor. 15th and Pa. ave., NW	12	17,920	118.7	15	34.65	81.05	25	57.75	60.95
South side Pa. ave. bet. 14th and 15th, NW	12	18,050	122.6	20	46.20	76.40	30	69.30	53.30
South side Pa. ave. bet. 13th and 14th, NW	12	18,520	130.7	21	48.51	82.19	31	71.61	39.09
Intersection Pa. ave. and E, NW	12	18,650	132.7	21	48.51	84.19	31½	72.76	59.94
South side Pa. ave. bet. 13th and 13½, NW	12	18,900	133.2	20	46.20	87.00	32	93.92	59.30
Southeast cor. 13th and Pa. ave., NW	12	19,140	133.2	21	48.51	84.69	32	73.92	59.28
South side Pa. ave. bet. 12th and 13th, NW	12	19,300	132.3	22	50.82	81.48	32	73.92	58.38
Northwest cor. 12th and D, NW	12	19,480	133.3	22	50.82	82.48	32	73.92	59.38
Northwest cor. 11th and Pa. ave., NW	12	19,700	132.4	22	50.82	81.58	33	76.23	56.17
Northeast cor. 10th and Pa. ave., NW	12	20,200	133.2	22	50.82	82.38	32	73.92	59.28
Southwest cor. 10th and Pa. ave., NW	12	20,120	133.2	22	50.82	82.38	32	73.92	59.28
South side Pa. ave. bet. 9th and 10th, NW	12	20,500	133.3	22½	51.97	81.33	33	76.23	57.07
Northwest cor. 9th and Pa. ave., NW	12	20,650	133.3	22½	51.97	81.33	32	73.92	59.38
Southeast cor. 8th and C, NW	12	21,160	133.0	2½	51.97	81.03	32	73.92	59.08
Southwest cor. 7th and Pa. ave., NW	12	21,400	134.6	22	50.82	83.78	32½	75.07	59.53
South side Pa. ave. bet. 6th and 7th, NW	12	21,700	134.9	22	50.82	84.08	32	73.92	60.98
Northeast cor. 6th and Pa. ave., NW	12	22,100	135.2	23	53.13	82.07	33½	77.38	57.82
South side Pa. ave. bet. 4½ and 6th, NW	12	22,440	134.7	21½	51.97	82.73	33	76.23	58.47
Southwest cor. 4½ and Pa. ave., NW	18	22,700	133.7	21	48.51	85.19	33½	77.38	56.32

506 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

TABLE K.—Pressures and losses of head along lines of principal supply mains—Cont'd.

Location.	Size of main.	Length to plug.	Hydraulic head.	Day.		Night.			
				Pressure.		Lost head.	Pressure.	Lost head.	
				Lbs.	Feet.		Lbs.	Feet.	
South side Pa. ave. bet. 3d and 4½, NW...	12	23,200	134.4	22	50.82	83.58	32	73.92	60.48
Southwest cor. 3d and Pa. ave., NW.....	12	23,450	135.8	22	50.82	84.98	33	76.23	59.57
South side Pa. ave. bet. 2d and 3d, NW...	12	23,750	135.4	21	48.51	86.89	32½	75.07	65.33
Northwest cor. 2d and Pa. ave., NW.....	12	23,860	134.5	23	53.13	81.37	33	76.23	58.27
Northwest cor. 1st and Pa. ave., NW.....	12	24,280	133.4	21	48.51	84.59	32½	75.07	58.33
Front City Hall, NW.....	12	23,830	98.2	7½	17.32	80.88	18	41.58	56.62
Northeast cor. 4½ and C, NW.....	12	23,340	119.4	15½	35.80	83.60	27	62.37	57.00
Corner Jones' Court and 4½, NW.....	12	22,900	134.9	15½	35.80	99.10	32	73.92	60.98
Southwest cor. 4½ and Md. ave., SW.....	12	24,620	131.5	15½	35.80	95.70	27	62.37	69.13
Northwest cor. 4½ and C, SW.....	12	24,940	128.9	15	34.65	94.25	27	62.37	66.53
Northwest cor. 4½ and D, SW.....	12	25,280	127.9	14½	33.49	94.41	26	60.06	67.84
Southeast cor. 4½ and Va. ave., SW.....	12	25,640	129.9	13½	31.18	98.72	25½	58.90	76.00
Southwest cor. 4½ and E, SW.....	12	26,040	129.2	13½	31.18	98.02	25	57.75	71.45
Northwest cor. 4½ and F, SW.....	12	26,300	128.5	13½	31.18	97.32	24	55.44	73.06
Northwest cor. 4½ and G, SW.....	12	26,630	129.4	14½	33.49	95.91	24½	56.59	72.81
Northwest cor. 4½ and I, SW.....	12	27,340	127.4	13½	31.18	96.22	25	57.75	69.15
Southwest cor. 4½ and K, SW.....	12	27,790	129.9	15	34.65	95.25	25	57.75	72.15
Southwest cor. 4½ and L, SW.....	12	28,000	127.8	14	37.34	95.46	24½	56.59	71.21
Southwest cor. 4½ and M, SW.....	12	28,500	125.3	12	27.72	97.58	23½	54.28	71.02
Southwest cor. 4½ and N, SW.....	12	29,200	127.4	13	30.03	97.37	24½	56.59	70.81
Northwest cor. 4½ and O, SW.....	12	29,680	126.2	13½	31.18	95.02	24	55.44	70.76
Northeast cor. 22d and K, NW.....	30	12,540	80.3	18	41.58	38.72	21	48.51	31.79
Northwest cor. 21st and K, NW.....	30	13,000	88.7	25	57.75	30.95	30	69.30	19.40
Northeast cor. 20th and K, NW.....	30	13,680	84.3	20	46.20	38.10	23	53.13	31.17
Northwest cor. 18th and K, NW.....	30	14,320	78.8	20	46.20	32.60	25	57.75	21.05
Northwest cor. Conn. ave. and K, NW.....	30	14,760	88.2	23½	54.28	33.92	27	62.37	25.82
Northeast cor. 17th and K, NW.....	30	15,510	90.6	23½	54.28	36.32	28	64.68	25.92
Northeast cor. 16th and K, NW.....	30	16,120	92.2	24	55.44	36.76	29	66.99	25.21
South side K bet. 15th and 16th, NW.....	30	16,400	89.2	17½	40.42	48.78	25	57.75	31.45
Northwest cor. Vermont ave. and K, NW.....	30	16,710	80.8	23	53.13	27.67	27	62.37	18.43
Northeast cor. 14th and K, NW.....	30	17,400	82.6	21	48.51	34.09	25	57.73	24.85
Northwest cor. 13th and K, NW.....	30	17,900	68.8	15	34.55	34.25	18½	42.73	26.07
Northeast cor. 12th and K, NW.....	30	18,510	71.9	15½	35.80	36.10	20	46.20	25.70
Southwest cor. 11th and K, NW.....	30	18,650	78.2	11	25.41	52.79	17	39.27	38.93
Southeast cor. 10th and K, NW.....	30	19,090	79.8	13	30.03	49.77	18	41.58	38.22
South side K bet. 9th and 10th, NW.....	30	19,300	82.7	12	27.72	52.98	19	43.89	36.81
Southwest cor. 9th and K, NW.....	30	19,560	82.5	14	32.34	50.16	19	43.89	38.61
Southeast cor. 8th and K, NW.....	30	20,000	87.9	15½	35.80	52.10	21½	49.60	38.04
Southwest cor. 7th and K, NW.....	30	20,210	82.7	15	34.65	48.05	21	48.51	34.19
Southwest cor. 6th and Mass. ave., NW.....	30	20,810	95.8	20	46.20	49.60	26	60.06	35.74
Southeast cor. 5th and Mass. ave., NW.....	30	21,340	97.6	20	46.20	51.40	27	62.37	35.23
South side Mass. ave. bet. 4th and 5th, NW.....	30	21,780	98.2	20	46.20	52.00	27½	63.32	34.68
Northwest cor. 4th and Mass. ave., NW.....	30	21,900	99.3	21	48.51	50.79	27½	63.52	35.78
Northwest cor. 2d and Mass. ave., NW.....	30	22,690	95.1	23½	54.28	40.82	28	64.65	30.42
Northwest cor. N. J. ave. and G, NW.....	30	23,280	114.8	31	71.61	43.19	35½	82.00	32.08
Northeast cor. N. J. ave. and F, NW.....	30	23,710	117.3	33	76.93	41.07	38	87.78	29.52
Northwest cor. N. J. ave. and E, NW.....	30	24,190	116.4	18	41.58	74.82	28	64.68	61.72
Southwest cor. N. J. ave. and D, NW.....	30	24,840	125.5	18½	42.73	82.77	28	64.68	60.82
Southwest cor. N. J. ave. and C, NW.....	30	25,390	113.4	12	27.72	85.68	22	60.82	62.68
Northeast cor. N. J. ave. and B, NW.....	30	25,800	96.3	24	55.44	40.86	29	66.09	29.31
Northwest cor. Del. ave. and B, NE.....	20	26,500	72.3	13½	31.18	41.12	18½	42.73	29.57
Northeast cor. 1st and B, NE.....	20	27,090	65.3	10	23.10	42.20	15½	35.80	29.50
Northwest cor. Md. ave. and 2d, NE.....	20	27,640	57.3	10	23.10	34.20	15	34.65	22.65
Northwest cor. 4th and B, NE.....	20	28,500	60.6	11	25.41	35.19	15½	35.80	24.80
Southeast cor. 6th and B, NE.....	20	29,230	58.5	10	23.10	35.40	15	34.65	23.85
Northwest cor. 7th and Mass. ave., NE.....	20	29,800	67.0	13½	31.18	35.82	18½	42.73	24.27
Northwest cor. 8th and B, NE.....	20	30,100	66.1	13	30.03	36.07	18	41.58	24.52
Northeast cor. 1st and Md. ave., NE.....	12	27,200	60.2	10	23.10	37.10	15	34.65	25.55
Northeast cor. 1st and Pa. ave., SE.....	12	28,150	60.0	8	18.48	41.52	13	30.03	29.97
Northeast cor. 1st and B, SE.....	12	28,500	62.9	9	10.79	42.11	15	34.65	28.25
Southeast cor. 1st and B, SE.....	12	28,650	62.9	10	23.16	39.80	15	34.65	28.25
Northeast cor. 2d and Pa. ave, SE.....	12	29,290	59.2	8	18.48	40.72	12½	28.87	30.33
Northeast cor. 3d and Pa. ave., SE.....	12	29,700	63.3	10	23.10	40.20	14½	33.49	29.81
Southwest cor. 4th and Pa. ave., SE.....	12	30,100	69.6	11	25.41	44.19	14	32.34	37.26
Southwest cor. 5th and C, SE.....	12	30,750	68.2	9½	21.94	46.26	14	32.34	35.86
Southwest cor. 6th and Pa. ave., SE.....	12	30,760	62.8	8	18.48	44.32	13	30.03	32.77
Northwest cor. 7th and D, SE.....	12	31,500	69.4	9	20.79	48.61	14	32.34	37.06
Northeast cor. 8th and D, SE.....	12	31,900	72.9	10	23.10	49.80	19	43.89	29.01
Southeast cor. 8th and E, SE.....	12	32,560	75.2	11	25.41	49.79	19½	45.04	30.16
Southwest cor. 8th and G, SE.....	13	33,060	74.2	11½	26.56	47.64	20	46.20	28.00
Southeast cor. 8th and I, SE.....	12	33,780	83.6	14	32.34	51.26	20	46.20	37.40
Southeast cor. 8th and L, SE.....	12	34,400	92.0	14	32.34	59.66	23	53.13	38.87

Curves showing Loss of Pressure on lines of principal Supply Mains
— due to consumption of water, friction in pipes, &c. &c. —



Upper yellow lines show 12 inch main from M & 36th, along M St. Penna Ave. and 4¹/₂ St. to Arsenal.

Red lines show 30 inch main from M & 36th, along M St., Penna Ave., K St., Mass Ave. and N.J. Ave. to N.J. Ave. and B St. north.

Green lines show 36 inch main from M & 36th, along M St., Penna Ave., and L St. to N.J. Ave.

Black lines show 20 inch main from N.J. Ave & B St. n., along B St. to 8th St. e..

Lower yellow lines show 12 inch main from B & 1st s.e., along 1st St., Penna Ave. and 8th St. to L St. s.e..

Full lines - Loss of Head during night.

Dotted lines - Loss of Head during day.

The pressures were taken at fire hydrants along the line and are in consequence affected more or less by local influences.

The only apparent abnormality in these curves is the great increase in the loss of pressure in the 12-inch main along Pennsylvania avenue and Fifteenth street when it reaches the vicinity of the great Government buildings. For instance, in passing from the corner of Seventeenth and Pennsylvania avenue to the corner of Fifteenth and Pennsylvania avenue the loss of head during the day-time is 36.43 feet and during the night is 22.57 feet.

The total loss of head on this 12-inch main at Pennsylvania avenue and Fifteenth street, due to its small size and the draught on it, is during the day-time 84.05 feet and during the night-time 60.95 feet.

These figures and curves indicate very clearly the necessity for re-enforcing this 12-inch main from the 30-inch main on K street in the manner proposed in another part of this report.

These figures and curves also indicate the great value of large mains in keeping up the water pressure. For instance, the 30-inch and 12-inch mains are united at the Aqueduct Bridge, and at about two miles distance therefrom the loss of pressure in the 12-inch main is twice what it is in the 30-inch main.

The three principal causes of the waste are leaks in the public mains and street fixtures, defective plumbing and leaky fixtures on private property, and the needless waste from fixtures in public and private buildings.

There are nearly 200 miles of public mains connected with the distribution mains of the city, and in this long line leaks and breaks are constantly occurring. They are generally discovered by the water coming up to the surface. There are very many miles of mains in the aggregate which are buried beneath the sheet asphalt pavements, and in these mains there may be and undoubtedly are many leaks, the water from which finds its way in underground channels to some sewer or outlet. These leaks must, of course, be small in amount, else they would manifest themselves in some way on the surface or by doing injury from a heavy flow of water. There has undoubtedly for years been a considerable leakage from the cracks in that portion of the 36-inch main which has been recently undergoing repair, the water finding its way to the sewer alongside it.

There is also a considerable aggregate waste from public hydrants, and much labor and money is yearly expended in keeping them in order.

The inspectors of the water department are kept busy in going from house to house inspecting the water service, plumbing, and fixtures. Whenever any defect is found the occupants are notified to have the necessary repairs made before another inspection occurs, which takes place a few days later. These repairs are required to be made under penalty of the water being turned off.

But by far the most potent cause of waste comes from water takers permitting water to flow away either carelessly or willfully without its doing any good whatever. This is not only the greatest cause of waste, but it is decidedly the hardest to reach and remedy.

A great deal can be and is done by inspectors visiting premises, finding water running away, and warning the occupants, and in some glaring cases taking them before the police court.

This system of domiciliary visits and searches is exceedingly obnoxious to many people, and inspectors are often refused admission. When they make their errand known and are permitted to enter, it is a very

easy matter for one of the occupants to precede them over the house and stop any waste that may be taking place. Besides this, the inspectors must make their inspection at seasonable hours, and can not get into houses during the night, when the largest proportion of waste occurs.

It is recommended that the law requiring meters in all places using a large amount of water be enforced.

The city will continue to grow, and, unless regulated, the consumption of water will increase as it has in the past, and at no distant day will again arise the demands for additional supply. Then two alternatives will present themselves, either to restrict the waste or to expend large amounts of money for building new aqueducts, laying new supply mains, and erecting new pumping engines.

NEW PUMPING-ENGINES AND BOILERS.

In the appropriation act for 1887-'88 there is an item of \$35,000 for new pumping engines and boilers for the Washington and Georgetown high service. The present pumping engine at the Washington station is not sufficient in capacity or suitable in construction to do the work required of it. It is fitted to pump into a reservoir, but not fitted to pump directly into the service mains. For this reason it is adapted to the work at the Georgetown station, where all the water pumped is delivered into the reservoir, and not at the Washington station, where about nine tenths of the water is pumped directly into the mains.

It was therefore deemed best to remove the present engine and boiler to the Georgetown station and set them up there for alternate service with those at present there, and put both the new engines and boilers in the Washington station. Contract was made with the Holly Manufacturing Company to supply two engines, and boilers at the Washington station, with a capacity for each of 2,500,000 gallons per day, to raise the smoke-stack 30 feet, to remove the engine and boiler now at the Washington station and place them ready for service in the Georgetown station, and to remodel and refit the Georgetown pump house. The total cost of the work will probably be about \$27,000.

METERS.

The following is the law regarding meters (Sec. 218, R. S.): "The supply of water to all manufacturing establishments, hotels, livery stables, and other places requiring a large quantity, shall be by meters erected and maintained at the expense of the consumers; and the proper authorities shall charge and collect for the quantity so determined a price not exceeding 3 cents per hundred gallons."

The price of 1 cent per hundred gallons is now fixed by schedule.

During the past year an attempt was made to enforce this law. A list was prepared by the water office giving the location and description of each place to which the law seemed applicable with the size of meter required. Advertisements for proposals to furnish meters were made and a number of bids received. In accordance with these proposals, notices with price-list of meters were sent out to all parties interested, desiring them to select such particular kind of meters as to them seemed best. Nearly all chose the Worthington meter, which was the lowest in price. When it came to making a contract with the Worthington Company, however, they declined to make the contract and furnish the meters in accordance with the terms of the advertisement and their own proposals. This unexpected dereliction on the part of the contractor

caused a temporary suspension of the efforts of the water office to enforce the law.

In the majority of cities where water-meters are in use they are owned by the water departments. This is found to be most satisfactory in practice. This is certainly the case with gas-meters, and I see no reason why it should not be so with water-meters. I think it unwise to have any divided responsibility regarding the measurement of water, which would be the case to a certain extent if they were owned by one party and kept in order by the other party to the transaction.

The use of meters is not advocated with any idea of increasing water-rents, but with the view of rendering them more equitable and of preventing waste. Under the present system of inspection, or any other which it seems practicable to devise, it is impossible to suppress the waste of water except to a limited degree. Inspectors can only enter premises by the permission of the occupants and under their espionage, and only at seasonable hours.

All waste of water may be stopped while the inspection is going on and be immediately renewed upon its termination.

The visits of inspectors are very annoying to many people, and this is one great argument against the present system.

A meter is a silent, tireless, and unobtrusive inspector which will certainly and surely cause all water fixtures to be kept in order and all unnecessary flow of water to be stopped.

One instance, where a meter was introduced into a large office building during the past year, illustrates this. Under the ordinary schedule the owner had paid about \$150 per year water rent. Deeming this too high he determined to put in a meter, which was accordingly done. Much to his disappointment after the first two months he found that his yearly bill would be increased by the water meter to over \$300 per annum. A careful inspection of the premises was then made and all leaks and wastes stopped, and the meter then ran at a rate which will cause his expectations of a reduction in his bill to be fulfilled.

PETITIONS FOR WATER MAINS.

I wish to invite attention to the desirability of a change in the law which requires that the owners of a majority of the property fronting on a street, avenue, or alley should join in a petition for a water main in order that one be legally laid. This law works serious hardships at times and causes unnecessary annoyance to the people who are building and improving the city and desire water facilities. The difficulties of obtaining this legal petition are sometimes very great on account of the large amounts of property owned by non-residents, on account of the absence of resident owners, and on account of the aversion of some owners of unimproved property to having a main laid and being taxed therefor.

I believe it would be for the best interests of the city if the Commissioners had the power to order the laying of water mains and to levy assessments therefor whenever in their judgment such a course would seem for the public good, and I earnestly recommend that Congress be urged to bestow the necessary power.

WASHINGTON PUMP-HOUSE LOT.

On the 21st day of August, 1878, a lease was entered into between George W. Riggs and the District Commissioners, by which the use of the lot on which the Washington pump-house is situated was given

to the District for ten years at an annual rental of \$136 per year and freedom from taxation. The lease also stipulated that the District should have at any time, during the continuation of the lease, the right to buy the lot for the sum of \$2,275. The lot is No. 3, square 175, 62.9 feet front and 145 feet deep, containing 9,120.5 square feet. It is on the north side of U street, between Sixteenth and Seventeenth streets.

It will be necessary to continue the occupancy of this lot for a pumping station after the termination of the lease, August 1, 1888, and it is recommended that the District take advantage of the stipulation in the lease allowing its purchase. It is especially recommended because the lot is now worth at least three or four times the amount stipulated in the lease.

When the pumping-station shall be abandoned, which will probably be the case at some future time, the lot will be well situated for school or other District purposes.

In the estimates for next year the amount for the purchase of this lot is included.

TAPS.

Previous to the present year there had been no well defined and systematic rule adopted in regard to the size of taps granted for water service, and the water office had many applications to grant taps of larger size than were either necessary or desirable. In order to have a fixed rule on the subject, the following was made:

The taps to be inserted for water service will hereafter correspond with water rentals, as follows:

When the rent of the premises to be supplied is under \$5 a $\frac{1}{8}$ -inch tap will be issued.

For rent from \$5 to \$15, $\frac{3}{8}$ -inch tap.

For rent from \$15 to \$25, $\frac{1}{2}$ -inch tap.

For rent over \$25, 1-inch tap.

Larger taps than those corresponding to water rentals may be issued upon the owner signing an agreement to pay a water rent of the amount prescribed above for the tap desired.

Taps will be granted to premises supplied with a meter and the water supply of which is measured and charged for at meter rates, at the discretion of the Engineer Commissioner.

These rules have worked very satisfactorily. Half-inch taps have not yet been procured, but they are under contract and will be on hand shortly. Most of the $\frac{3}{4}$ and 1 inch taps were made for the purpose of supplying two or more houses situated in alleys or streets in which there is no public main.

The following table gives the number of taps of all sizes made during the year in the different sections of the city, and the location of all taps of $\frac{3}{4}$ and 1 inch in size.

TABLE L.—Taps made in public mains during the year 1886-'87.

Size.	NW.	SW.	SE.	NE.	George-town.	County.	Total.
Five-eighths inch.....	864	288	285	386	77	42	1,942
Three-fourths inch.....	15	3	3	.....	1	2	24
One inch.....	46	4	4	15	3	2	74
Grand total	925	295	292	401	81	46	2,040
Percentage.....	.452	.145	.143	.197	.040	.023	1.000

Statement showing the taps made.

THREE-QUARTER INCH TAPS.

Description.	Location of taps.					No. of taps.	Stories.	Feet front.	D. P.	Offices and stores.	Other purposes.	Remarks.
	NW.	SW.	SE.	NE.	George-town.							
No. 200 Twelfth street.....	1					1	2	12	4		Warehouse	Four houses.
In alley, No 106, 108, 110, and 112, Fourteenth street.	1					1						One house.
No. 1608 K street.....	1					1	4	50	1			Three houses.
Nos. 1005, 1007, and 1010 King's court.	1					1	2	15	3			
Corner Fourteenth and S streets	1					1					Orphan Asylum	
In rear 646 B street.....			1			1					Stable	
Nos. 350 and 352 E street.....			1			1	2	15	2			Two houses.
Nos. 906 and 908 Tenth street.....			1			1	2	14	2			Do.
No. 1315 Seventh Street.....	1					1	3	20	1	Store		One house.
No. 611 H street.....	1					1	4	20	1			Do.
No. 1417 G street.....	1					1	3	25	1			Four houses.
In rear 937 and 939 E street.....		1				1	2	12	4		Laundry	
No. 113 Four-and-a-half street.....		1				1				Hotel		
Nos. 1336 and 1338 Prospect street.....					1	1						Two houses.
In rear Nos. 937 and 939 E street.....		1				1	2	12	2			Do.
No. 2514 and 2516 Fourteenth street.....						1	3	18	2			Do.
Nos. 2021 and 2023 Eighth street.....						1	2	18	2			
No. 1201 Pennsylvania avenue.....	1					1				Store and offices		One house.
No. 516 Thirteenth street.....	1					1	4	26	1	Offices		Do.
No. 518 Thirteenth street.....	1					1	4	25	1	do		Do.
No. 1114 O street.....	1					1	4	46	1			Do.
No. 1837 Fourteenth street.....	1					1	3	18	1			Three houses.
In alley, 2221, 2223, and 2225 Pennsylvania avenue.	1					1	2	12	3			
Nos. 438 and 440 and in rear 438, 440 N street.	1					1	2	12	4			Four houses.
Total.....	15	3	3		1	24			36	2	5	

ONE-INCH TAPS.

Twenty-third, between G and H sts.	1					1					St. Mary's Church	Three houses.
No. 621 Fourteenth street.....	2					2						
East side Eighth, between C and D streets.			1			1	2	16	3	Offices, etc.		

Statement showing the taps made—Continued.

ONE-INCH TAPS—Continued.

Description.	Location of taps.					No. of taps.	Stories.	Feet front.	D. P.	Offices and stores.	Other purposes.	Remarks.
	NW.	SW.	SE.	NE.	Georgetown.							
No. 1340 E street Southwest corner Eighth and C streets.			2			2					Brewery Public school	
No. 1333 Thirtieth street In rear No. 3019 Q street			1			1		21	1			One house. Do.
Nos. 2921 to 2929 M street South side Water, between Eleventh and Twelfth streets.		1			1	1		25	1		B. and Q. flats Wharf	
No. 113 Four-and-a-half street East side Thirteenth-and-a-half, between C and D streets.		1				1					Laundry Public school	
Nos. 12 to 22 Capitol alley Nos. 933 to 937 Eighth and 807 K streets.		1				1		12	6			Six houses. Four houses.
North side B, between Twelfth and Thirteenth streets.				1		1					Public school	
West side Fifth, between D and E streets.				1		1					do	
Nos. 811, 13, 15, and 821, 23, 25 Twelfth street.				2		2		14	6			Six houses.
Southeast corner Second and I streets.				2		2					Reservation	Com. Pub. B and G.
A, between First and Second streets B, between Third and Fourth streets Maryland avenue and First street. Fourteenth street extended, above Euclid avenue.				2		2					do do do	Do. Do. Do
North side Stoughton, between Fourteenth and Fifteenth streets. In alley between Thirteenth and Fourteenth, L and M streets. In rear Nos. 719 and 721 Twentieth street.						1					Vacant lots	Five houses.
East side Twenty-eighth, corner Virginia avenue. East side Seventeenth, between L and M streets. West side First, between B and C streets.	1					1	2	12	5			Two houses.
	1					1	2	10	2			
	2					2					Lime kilns	
	1					1					Livery stable	
	2					2					New District Building.	

Nos. 906 to 920 Twenty-first street. Northeast corner Twenty-third and M streets.	1 1									1 1	2	18			Public school	Eight houses.	
South side Massachusetts avenue, between Ninth and Tenth streets.	1									1	3	18	3			Three houses.	
No. 200 Twelfth street	2									2					Warehouse		
No. 720 Twenty-seventh street	1									1					Ammonia Chemical Company.		
East side Twenty-seventh, between D and E streets.	2									2					Asphalt Works		
No. 344 D street.	1									1				Offices			
In alley, 1101 to 1115 M street.	1									1	2	12	8				
North side M, between Sixteenth and Seventeenth streets.	1									1					Public school		
East side Vermont avenue, between T and U streets.	1									1					do		
Nos. 1330 to 1338 Second street	1									1	2	14	5				
Nos. 1212 and 1214 M street	1									1	4	18	2				
Corner Fourteenth and S streets	1									1					Orphan Asylum	Five houses. Two houses.	
In rear Nos. 1719 and 1721 Twentieth street.	1									1	2	10	2			Do.	
Nos. 1013 to 1015 F street	2									2				Store			
No. 800 Twenty-seventh street	2									2					Mill		
No. 1515 K street	1									1	4	72	1		Livery stable	One house.	
No. 643 New York avenue	1									1				Offices			
No. 506 Fifth street.	1									1							
No. 1409 I street.	1									1					Mexican Legation	Six houses.	
In alley Nos. 1429 to 1439 L street.	1									1	2	12	6		Livery stable		
In rear No. 626 G street	1									1				Offices, etc			
Nos. 1427 and 1429 New York avenue	2									2							
West side North Capitol, between K and L streets.	1									1					Public school		
Fourteenth and Pennsylvania ave- nue.	2									2					Reservation	Com. Pub. B. 15 and G.	
Ninth and Louisiana avenue.	2									2					do	Do.	
Market Space, between Seventh and Eighth streets.	2									2					do	Do.	
No. 1003 F street.	1									1				Offices, etc			
Total	46	4	4	15	3	2				74			64	6		38	

The total number of service connections made during the year ending June 30, 1887, is 2,117.

FIRE ATTACHMENTS.

The following order in regard to the making of water attachments for the protection of premises from fire is given, in order that it become part of the printed records of the water office:

DISTRICT OF COLUMBIA,
Washington, April 6, 1887.

When water attachments for the protection of premises from fire are desired application to that effect must be made by the owner or lessee of the premises, a permit, after due consideration in each case, may be given upon condition that the fire attachment and connections be entirely distinct and separate from the supply connection both inside and outside the premises, and that the entire cost for labor and material be defrayed by the applicant, the work to be done under the direction of the water department, and that before the permit is issued the applicant shall furnish a bond in a penal sum of \$100 guarantying that the water will be drawn from the attachment solely for the prevention and extinguishment of fire, and for no other purpose whatsoever. If used otherwise the permission to be revoked and the connection severed.

STREET SPRINKLING.

The following order fixing the hours for using pavement or street washers was promulgated in order to fix them more definitely. This restriction is rendered necessary by the scant supply of water to different localities.

WASHINGTON, July 7, 1887.

Ordered, That the order of May 14, 1883, fixing the hours during which pavement or street washers, or hand-hose may be used, is hereby amended so that hereafter the use of water for those purposes will be permitted between the hours of five (5) to six (6) a. m., and seven (7) and eight (8) p. m., and at no other times, under the penalties prescribed in said order.

ANACOSTIA.

Requests for the extension of a main across the Anacostia Bridge and the erection of fire-hydrants in this suburb have been made during the past year. The cost of a 10 inch main from the 12-inch main at Virginia avenue and Eighth street would be about \$6,500.

The cost of a 6-inch main from the present terminus at the Washington end of the Navy-Yard Bridge across to Anacostia, would be about \$2,500, which is included in the estimates.

MOUNT PLEASANT WATER SUPPLY.

A system of sewerage has during the present season been extended out to Mount Pleasant, and this suburb and the others lying north of the city have long since needed a supply of water.

Previous to the adoption of any comprehensive plan for supplying water to Mount Pleasant and adjacent regions, it is proposed to extend a service main from the stand pipe at the head of Sixteenth street to Mount Pleasant, which will give a partial supply for fire protection and domestic purposes.

An appropriation of \$7,500 is asked for this purpose. The route of the main should be along those streets which will ultimately be accepted as public streets.

BREAKS IN THE 36-INCH MAIN.

On the 10th of April, 1887, a leak developed in the 36-inch main on Virginia street, between Twenty-second and Twenty-third streets. By working day and night the cause of the leak was discovered and as quickly as possible it was repaired and the water turned on.

On the 16th of June another leak was discovered about 60 feet east of the first one, and it was also repaired.

These two leaks were of threatening character, in each case consisting of a longitudinal crack about five feet in length along the bottom of the pipe. In both cases the crack started from the masonry piers on which the pipes were supported.

In both cases the pipes were repaired by putting on a wrought-iron jacket bent to conform to the curvature of the pipe and fastened to it by heavy iron bands. These jackets and bands for the 36-inch and 30-inch mains are kept on hand for such emergencies.

On September 17, at 1.40 a.m., another break occurred in the L-street main just one block east of the previous breaks. This was of more serious character than either of the others, as the pipe was completely disrupted into two parts for about two-thirds of its length. The escaping water tore up the street and did considerable damage before it could be turned off.

Every effort was put forth to repair the leak and renew the supply of water to those sections deprived of it. A new section of pipe was put in, connected to the old main by a cast-iron sleeve, and on Sunday morning, September 18, at 7 o'clock, the water was again turned on.

While the water was off men were sent into the pipe for considerable distances to examine its condition and see if any cracks existed. They reported two cracked pipes to the west and one to the east of the break. These cracks showed the necessity for further work and for extra precautions. Notices were published in all daily papers requesting people to keep a supply of water on hand until the main should be fully repaired. This was fortunate, for on Monday night, September 19, at 11 o'clock, the main again gave way at the length where the cracks had been observed from the inside. The employés of the water department had been kept at the work with everything necessary for prompt action in case of the expected break. In a very short time the water was turned off and men at work repairing the leak, and on Tuesday night about 11 o'clock the supply of water was again turned on. The other two cracks found were small and were repaired by jacketing and banding without interfering with the water supply.

Thus, during the past six months, there have been six cracks and breaks in this, the largest supply main at present of the city.

As all the cracks and breaks have occurred in one locality where the pipe was laid upon masonry piers across the old Slash Run Valley, it was deemed best to uncover and examine it, and repair it at all points where the slightest evidence of weakness presented itself, and in every way to put it into the best possible condition to prevent any accidents in the future. This 36-inch main was laid under authority of Congress (act approved July 14, 1870), and completed in the summer of 1872. Its route along L street crossed the valley of Slash Run, and across this valley masonry piers were built of varying height, from 5 to 14 feet, so that their tops should be about 7 feet below the grade of the street as it was destined to be. Upon these piers the pipe was laid, wooden blocks and wedges being interposed between the piers and pipes. The street was filled in under authority of the old Board of Public Works in 1873, and brought up to its present grade. Upon uncovering the main now it is found that these wooden blocks and wedges have rotted away or become soft and spongy, allowing the pipe to sag and settle away from its original position. In some cases the pipes rest upon these blocks with a very small surface of contact, not more than 6 inches in length in the direction of the pipe. It was not possible with

any ordinary care to compact the filled-in earth beneath the pipe so that it would not settle somewhat. This settling of the earth took place beyond a doubt, as is evidenced by the pipes settling and crushing the wooden blocks and wedges. In consequence, these small bearing surfaces where the pipes rested on the blocks were called upon to bear the weight of the pipe, the contained water, the four feet of superincumbent earth, and the jars and shocks of travel above. Undue strain were thus brought upon the pipes at these points of contact, starting the cracks, which slowly grew longer and longer until the moment of rupture arrived.

All the cracks which have been found started at the points where the pipes rested on the piers. Some of the cracks which opened enough to permit examination gave evidence of their having been in existence for years. This was particularly and noticeably the case with the section which was disrupted. In this a portion of the fracture was fresh and new, but the larger part was corroded by age.

Undoubtedly one cause which tended to hasten the moment of final rupture was the necessity for turning off and on the water from the 30-inch main on the occasion of making connection for the 20-inch main at the corner of Seventeenth and E streets. In thus relieving and restoring the pressure to the main the molecular equilibrium of the iron was disturbed. So, again, when the water was turned off and on in repairing the first break, the internal equilibrium was again disturbed, and the other cracks enlarged, and so on with each break.

That these breaks were caused by turning off and on the water is not true. If the pipe had been sound, the turning off and on the water any number of times would have had no effect whatever to produce rupture. Being unsound, these changes increased the imperfections and hastened the time when the pipe finally gave way. It is a matter of congratulation that the breaks occurred during the summer season. If they had been delayed until freezing weather in winter, the work of repairing them would have been attended with much greater difficulty.

The plan adopted for properly securing the main is to raise it as far as practicable back to its original position, and to secure it in this position by carrying the masonry piers up to and encircling the lower segment of the pipe. In this manner each section of pipe is supported for 2 feet of its length and for its full semi-circumference on an enduring masonry cradle.

The expense entailed upon the water department in repairing the breaks in this large main, and putting it in a condition to insure its future immunity from the same to the greatest possible degree, will be considerable, and must come out of the current appropriation for pumping expenses and pipe distribution. Its effect will be to prevent the department from laying some service mains which are required.

A map of the water distribution system, corrected to July 1, 1887, is herewith submitted.

PUMPS.

For the purchase and repair of pumps there was appropriated for the year 1886-'87, the sum of \$3,000. Expended to June 30, 1887, \$2,960.75. The appropriation for the year 1887-'88 is also \$3,000. Estimate for 1888-'89, \$5,000. This sum of \$3,000 is found to be inadequate for the demands upon it. There are in the District about 300 pumps which require frequent repairs and constant renewals to keep them in a state of efficiency. After many trials a new form of pump has been adopted.

which is a great improvement on the pumps previously in use. As fast as the old pumps require renewal, these new pumps are substituted.

There are many wells the water of which has been found to be contaminated by surface drainage, and it is found necessary, in order to thoroughly protect the water, to go to considerable expense in leading all surface water and drippings through pipes to the public sewers.

There are a number of old wells in the city which have been abandoned, and have been left covered in an insecure manner, and serious accidents have occurred from this cause. The District is now defendant in a suit for \$5,000 damages resulting from a man breaking through such a covering and falling into the well below. The possibility of such a thing should be prevented by filling the well, or if it be found, after examination, to furnish good water it should be restored, put in good order, and a pump supplied. No well which can be made by any reasonable precaution to supply good wholesome water should be destroyed. They are a source of inestimable comfort during the summer to poor people who are unable to purchase ice, and whenever accidents or the necessity for alterations deprive people of their accustomed supply of Potomac water, these wells demonstrate their great value.

No wells are now recommended to be destroyed except such as are found, after every possible means have been taken to protect them, to be polluted beyond the hope of redemption.

SEWER DIVISION.

During the past year a sewer division of the engineer department has been temporarily organized, and Assistant Engineer McComb detailed in charge of it as acting superintendent. All the work connected with the sewers is now under his charge. The result of the change has been very satisfactory. This change was made on the 1st of April, 1887.

BOUNDARY SEWER.

The Boundary sewer has been practically completed. The small amount of money remaining is being expended in building a gravel basin at First and Boundary streets northwest. The sewerage proper flowing down the Boundary sewer is intercepted at North Capitol street and carried into the North Capitol street sewer, and discharged into the Potomac through the James Creek Canal. Only storm water, as a general thing, flows through the Boundary sewer and discharges into the Eastern Branch.

Total appropriations	\$520,000.00
Expended to June 30, 1887	517,303.20
On hand July 1, 1887	2,696.80

No appropriation is asked for 1888-'89.

CLEANING AND REPAIRING SEWERS AND BASINS.

Appropriation 1886-'87	\$25,000.00
Expended 1886-'87	24,849.04
Appropriation 1887-88	30,000.00
Appropriation recommended for 1888-'89	35,000.00

A list has been prepared and is submitted with this report, showing the extent of the public sewerage system of Washington, giving the lengths of all different size sewers. There are 226½ miles of sewers in

the city, some of which are very old and give great trouble. The sum asked for is needed to keep these sewers and their auxiliaries in order.

PERMIT SEWERS.

The report of the superintendent of sewers, submitted herewith, gives all data showing location, length, cost, etc., of all sewers built under the permit system. The compulsory permit system has enabled a number of sewers to be built in alleys, where they were necessary for the "public health, safety, and comfort," and the expense of labor charged to the abutting property.

Where work is done under the compulsory permit system, the materials are furnished by the District of Columbia, and the cost of labor is charged pro rata to the property abutting on the alley in which the sewer is laid. This money to pay for labor it is impossible to collect immediately, and it is necessary, therefore, to advance the money from some appropriation. The assessments to pay for the labor are levied on the abutting property and are collected as ordinary taxes, and thus returned to the Treasury and credited to the permit fund, from which the money to pay for labor is advanced. This state of affairs is unsatisfactory and complicated, and to remedy it I recommend that a specific appropriation be made for material for permit work, and another specific appropriation for material and labor for the construction of sewers in alleys under the compulsory permit system, the cost of the labor thereof to be assessed against the property abutting on the alley in which the sewer is laid.

The following is the summary of work done under the permit system :

	Feet.
6-inch pipe sewers	1,044
8-inch pipe sewers	7,143
12-inch pipe sewers	10,605
18-inch pipe sewers	642
21-inch pipe sewers	166
24-inch pipe sewers	506
Brick sewers	472
Concrete sewers	145
Total length	20,723
Manholes	112
Branches inserted	1,118
Cost of labor	\$14,737.68
Cost of material	11,273.64
Total cost	26,011.32

CONSTRUCTING NEW MAIN AND PIPE SEWERS.

Appropriation 1886-'87	\$40,000.00
Expended to June 30, 1887	36,108.61

The balance of this appropriation was under contract and was expended after June 30.

Appropriation 1887-'88	\$50,000.00
Appropriation recommended 1888-'89	75,000.00

The report of the superintendent of sewers herewith gives all data as to location, length, cost, etc., of all sewers laid during the year under the contract system.

The following is the summary of the work done under contract by the sewer department during the year:

	Feet.
12-inch pipe sewers.....	18,473.2
15-inch pipe sewers.....	3,350.5
18-inch pipe sewers.....	2,075.5
24-inch pipe sewers.....	405.0
6-inch pipe sewers.....	1,421
Brick sewers.....	1,519
Receiving basins.....	56

The details of the \$75,000 asked for are as follows:

MAIN SEWERS.

Completion of Tennessee avenue main sewer to Lincoln Park.....	\$6,000
Extension of Twelfth street (east), sewer from South Carolina avenue to B street south, and from its present terminus to the river.....	12,000
Construction of main sewer on T street, from Tenth to Thirteenth streets northwest.....	4,500
Total.....	<u>22,500</u>

PIPE SEWERS.

24-inch pipe sewers, 2,400 feet, at \$2.75.....	\$6,600
18-inch pipe sewers, 1,500 feet, at \$2.....	3,000
15-inch pipe sewers, 4,100 feet, at \$1.50.....	6,150
12-inch pipe sewers, 25,000 feet, at \$1.20.....	30,000
6-inch pipe sewers, 1,500 feet, at 50 cents.....	750
80 receiving basins, at \$75.....	6,000
	<u>52,500</u>

Total for main and pipe sewers..... 75,000

The completion of the Tennessee avenue main sewer is necessary to give sewerage outlet to a large portion of rapidly building up country lying north of and about Lincoln Park. The extension of the East Twelfth street sewer to B street is necessary for the same reasons for the country south of Lincoln Park, and to relieve the overcrowded sewers to the west of it.

The T street main sewer is needed to relieve the present overburdened sewers in its vicinity, which are the cause of great hardships.

The pipe sewers asked for are necessary on account of the rapid growth of the city; new localities are being built up and are constantly asking for sewerage facilities; and the residents in old built-up sections where there are no sewers, are awakening to the desirability and necessity thereof and demanding that they be built.

REPLACING OBSTRUCTED SEWERS.

Appropriation for 1887-'88.....	\$7,500
Appropriation recommended for 1888-'89.....	15,000

There is a very great aggregate length of sewers in Washington laid under the old Board of Public Works, which are now practically useless, and must be replaced. These sewers were laid with open joints, through which roots have penetrated in such a manner as to almost entirely obstruct them in many cases. The consequence is that every shower causes them to back water and sewerage into cellars and basements.

SUBURBAN SEWERAGE.

Appropriation for 1887-'88.....	\$35,000
Appropriation recommended for 1888-'89.....	35,000

520 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

The sewers which it is desired to build with this item of \$35,000 are—

Extension of sewer along First street west from boundary toward the new reservoir	\$10,000
Construction of Sherman avenue sewer from Irving street to Wallach street	7,650
Construction of sewer on Columbia road from Boundary to Nineteenth street extended	5,000
Pipe sewers to connect with main sewers	12,350
	35,000

The First street sewer, for the extension of which an appropriation is asked, is intended to replace the open water-course coming from the vicinity of the new reservoir, the Soldiers' Home, and Howard University. This water-course receives a large amount of sewerage, including all the sewerage from the Soldiers' Home, Howard University, and the country lying south and east thereof, and a large part of the sewerage of Le Droit Park. The country along this water-course has lately been subdivided and the removal of the nuisance caused by this open sewage-carrying water-course should be abated.

The Sherman avenue sewer is designed to furnish a trunk line for the sewerage from the country along Seventh street extended in the vicinity of Schentzen Park. The Columbia road sewer is asked for in consequence of the repeated demands for sewerage facilities from the high grounds north of the Boundary and west of Nineteenth street extended. The pipe sewers are necessary in various places to meet present and prospective demands for sewerage facilities.

SEWAGE DISPOSAL.

The adoption of some other method of sewage disposal than the present is imperatively demanded.

The proper method of treating the main outlets and a number of lesser outlets involves a comprehensive study of the whole matter of the disposal of the sewage of the city.

The elaboration of a plan of this kind is a work of considerable magnitude, but should be undertaken without delay. The Commissioners' estimate includes \$5,000 for this purpose.

SEWER DIVISION.

The estimates include the permanent establishment of a sewer division, as follows:

Superintendent of sewers	\$2,400
Chief inspector of sewers	1,200
Draughtsman	1,200
Clerk	900
Permit clerk	1,200
Assistant permit clerk	900
Survey party:	
Assistant engineer	1,500
Rodman	780
Axman	650
Sewer tapper	1,000
Assistant sewer tapper	625
	12,355

The office work of the sewer division is of much greater magnitude than might appear without consideration. Every sewer asked for has to be surveyed, platted, and reports concerning it made. Every sewer

ordered has to be resurveyed, marked on the ground plats and grade sheets furnished, and tested during construction, and records thereof kept in the office. Every sewer built has to be recorded and platted in all its details in the books and maps kept for the purpose in the office. Every bit of material used has to be applied for by requisition, the most careful accounts kept with contractors and with laborers employed. Besides a great deal of time is necessarily expended in giving information to plumbers, builders, and property owners.

SUMMARY OF ESTIMATES FOR SEWER DIVISION.

Cleaning and repairing sewers and basins.....	\$35,000
Construction of main and pipe sewers—city.....	75,000
Replacing obstructed sewers.....	15,000
Suburban sewerage.....	35,000
Preparation of plans of sewage disposal.....	5,000
Office of superintendent—salaries.....	12,355
	177,355

Comparative appropriations, with estimates for 1888-'89.

	1886-'87.	1887-'88.	Estimate, 1888-'89.
Cleaning and repairing sewers and basins.....	\$25,000	\$30,000	\$35,000
Main and pipe sewers.....	45,000	50,000	75,000
Replacing obstructed sewers.....		7,500	15,000
Suburban sewerage.....		35,000	35,000
Preparation of plans for sewage disposal.....			5,000
Salaries, office of superintendent.....			12,355
Completion of sewerage system.....	20,000		

The following table exhibits the extent of the sewerage system of Washington:

TABLE M.—Summary statement of main sewerage system of Washington, D.C.

Size.	Length in feet.	Size.	Length in feet.
<i>Circular brick sewers.</i>		<i>Circular brick sewers—Continued.</i>	
30 feet diameter.....	7,280	2 feet diameter.....	19,060
24 feet diameter.....	492	1 foot 6 inches diameter.....	6,266
22 feet diameter.....	710		218,643
20 feet diameter.....	8,543	<i>Egg-shaped brick sewers.</i>	
12 feet diameter.....	2,248	15' by 17' 6".....	2,010
10 feet diameter.....	7,788	7' by 10' 6".....	900
9 feet 6 inches diameter.....	4,635	6' 6" by 9' 9".....	3,469
9 feet diameter.....	4,159	4' 6" by 6' 9".....	3,856
8 feet 6 inches diameter.....	2,771	4' by 6'.....	3,035
8 feet 3 inches diameter.....	640	5' 6" by 8' 9".....	2,678
8 feet diameter.....	5,487	5' 6" by 8' 3".....	3,095
7 feet 9 inches diameter.....	210	5' 3" by 7' 10½".....	433
7 feet 6 inches diameter.....	1,830	3' 9" by 5' 7½".....	5,195
7 feet diameter.....	215	3' 6" by 5' 3".....	2,128
6 feet 6 inches diameter.....	3,350	3' 3" by 4' 10½".....	5,366
6 feet 3 inches diameter.....	1,192	3' by 4' 6".....	3,200
6 feet diameter.....	17,733	3' by 3' 6".....	75
5 feet 6 inches diameter.....	5,125	3' 6" by 2' 6".....	140
5 feet 3 inches diameter.....	20	2' 9" by 4' 1½".....	5,168
5 feet diameter.....	5,391	2' 6" by 3' 9".....	5,804
4 feet 6 inches diameter.....	10,413	2' 4½" by 3' 7½".....	675
4 feet diameter.....	26,401	2' 3" by 3' 4½".....	9,023
3 feet 9 inches diameter.....	480	2' by 3'.....	5,002
3 feet 8 inches diameter.....	1,025		61,246
3 feet 6 inches diameter.....	13,506		
3 feet diameter.....	49,738		
2 feet 6 inches diameter.....	11,417		
2 feet 2 inches diameter.....	518		

TABLE M.—Summary statement of main sewerage system of Washington, D. C.—Cont'd.

Size.	Length in feet.	Size.	Length in feet.
<i>Pipe sewers.</i>		<i>Old corporation sewers.</i>	
30 inches diameter.....	575	Washington:	
24 inches diameter.....	22, 173	Uncertain (variable).....	17, 117
21 inches diameter.....	4, 065	Georgetown:	
20 inches diameter.....	4, 903	Old brick (variable).....	790
18 inches diameter.....	130, 110. 5	East branch (variable).....	1, 638
15 inches diameter.....	158, 872. 5	West branch (variable).....	2, 285
12 inches diameter.....	546, 076. 2	Main branch (variable).....	1, 015
10 inches diameter.....	1, 650		
8 inches diameter.....	20, 644		22, 845
6 inches diameter.....	3, 761		
4 inches diameter.....	355		
	893, 185. 2	Circular brick sewers.....	218, 643
		Egg-shaped brick sewers.....	61, 246
		Pipe sewers.....	893, 185. 2
		Old corporation sewers.....	22, 845
		Total length in feet.....	1, 195, 919. 2

A map of the sewerage system, with corrections and additions up to October 1, 1887, is herewith submitted.

DIVISION OF STREET LIGHTING.

Appropriation for 1886-'87	\$100, 000. 00
Expended to June 30, 1887	92, 766. 90
(Balance of appropriation under contract.)	
Appropriation for 1887-'88 for lighting streets with gas	100, 000. 00
Electric lighting of streets	20, 000. 00
Appropriation asked for 1888-'89 for lighting streets with gas	100, 000. 00
Electric lighting of streets	30, 000. 00

GAS LIGHTING.

I have the honor to state that during the past year the lighting of the city streets has much improved. The gas companies have exercised closer supervision and there are now few cases of non-illumination reported by the police.

During the year 1886-'87 only 24 new lamps were erected, owing to the narrow appropriation. The appropriation for the current year being more liberal, a number of badly needed lamps have been erected and more have been ordered; but the number of hours of lighting should be increased from 2,600 to 3,000. This recommendation has been made for years by every one having any connection with the lighting of the city.

At the beginning of the current year there were 4,547 lamps lighted at public expense in the streets. During the year 1887-'88 it is expected that 250 new lamps will be erected and about 30 discontinued. So that at the beginning of the year 1888-'89 there will probably be in service 4,767 public lamps.

To maintain these at \$20 per annum will cost \$95,340, at the present rate of \$20 per light burning 2,600 hours.

During the year 1888-'89 provision should be made for at least 250 new lamps. These new lamps and their lighting will cost for the year, each, about \$50, making a total of \$12,500.

For street designations on lamps and painting there will be needed \$2,000. If the present rate of pay and number of schedule hours be





To accompany annual report of
Captain T.W. SYMONS, Corps of Engineers, U.S.A.
 Assistant to the Engineer Commissioner, D.C.,
 For the Fiscal Year ending June 30th, 1887





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adhered to, the appropriation asked for gas lighting of streets is \$109,840, in round numbers \$110,000.

If, however, it be decided to extend the schedule period from 2,600 to 3,000 hours, and a proportionate increase made in the rate of pay, the amount to be appropriated would be \$127,000 for gas lighting.

ELECTRIC LIGHTING.

During the year 1886-'87 there were maintained 43 public electric lights of 2,090 candle power, at the rate of 65 cents per night each.

Twenty-four of these lights are on the south side of Pennsylvania avenue between the Capitol and Fifteenth street, and 19 are on F street, between Ninth and Fifteenth streets.

The amount of \$9,924 was paid for electric lighting.

For the current fiscal year an allotment of \$20,000 has been made from the appropriation for street lighting for electric lights, and this will permit payment for 43 new electric lights. At the present time 31 of the lights have been erected on the east side of Seventh street from Pennsylvania avenue to P street northwest.

Electric light is far more suitable and satisfactory for street purposes than gas, and especially is this the case on business streets.

The report of the United States inspector of gas and meters gives the details of the work in his department, with the estimates of the amounts required for his office. It is suggested that as this officer is paid from the District appropriation, and his business is so intimately associated with the lighting of the streets in charge of the District, that the work of his office be combined with that of the superintendent of lamps, and a department of lighting be established, which should have cognizance of all duties connected with the supply of gas, testing meters, electric lighting, etc.

HARBOR AND RIVER FRONT.

The report of Harbor Master Sutton, which is submitted herewith, again calls attention to the need of laws, rules, and regulations governing the harbor and its use.

Very respectfully, your obedient servant,

THOMAS W. SYMONS,
Captain of Engineers, U. S. A.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

B.—REPORT OF CAPT. EUGENE GRIFFIN, CORPS OF ENGINEERS, U. S. ARMY, ASSISTANT TO THE ENGINEER COMMISSIONER, DISTRICT OF COLUMBIA.

DISTRICT OF COLUMBIA,
STREETS AND HIGHWAYS,
Washington, August 16, 1887.

Col. WILLIAM LUDLOW,
Engineer Commissioner, D. C. :

COLONEL: I have the honor to submit herewith my second annual report on the streets and highways of the District of Columbia.

In the distribution of duties in the Engineer Department, made by your order of July 1, 1886, I was placed in charge of the following divisions, viz: Highways, streets, avenues, alleys, roads, bridges, railroads, telegraph lines, subdivisions of property, survey of the District.

The following report covers all operations under my supervision during the fiscal year 1886-'87:

STREET IMPROVEMENTS.

Appropriation, \$266,000.

Pavements.—The character and extent of the street pavements on July 1, 1887, are shown in detail in the tabular statement in the appendix. The following is a summary of this table:

Description.	Square yards.	Miles.	Per cent.
Sheet asphalt.....	751, 116	31 8	14. 55
Coal tar distillate and asphalt.....	782, 461	33. 4	15. 16
Asphalt block.....	95, 889	4. 4	1. 84
Stone block (granite or trap).....	534, 718	21. 5	10. 35
Rough stone (cobble or rubble).....	490, 546	12. 7	9. 50
Macadam.....	225, 009	8. 2	4. 35
Gravel.....	725, 998	36. 7	14. 06
Wood.....	18, 403	. 7	. 35
Unimproved.....	1, 539, 050	84. 1	29. 84
Total.....	5, 163, 196	233. 5	100. 00

The appropriation for "replacement of pavements and work on sundry streets and avenues" was \$266,000. The estimates on which this appropriation was based were submitted with the Commissioners' annual report for the fiscal year 1884-'85, and included only the estimated cost of carriage-way pavements, and grading and regulating the streets and avenues specified. No estimate was made for the cost of removing old material, such as cobble and rubble pavements, old curb, brick, etc.; the purchase and setting of new curb; the replacement and repair of old foot pavements and laying of new sidewalks, including the purchase of material therefor; the grading of streets for new pavements; inspection; and other items incidental and necessary to such improvements.

The Commissioners' estimates, notwithstanding this limitation, amounted to \$325,000. With the actual appropriation of \$266,000 only a fraction of the work contemplated could be executed.

The nature, distribution, and cost of the various improvements are shown in the following table:

Expenditure of appropriation for street improvements, 1886-'87.

Location.	Character of improvements.	Square yards.	Cost of inspection.	Contract work and material.	Total cost.
35th st., Georgetown, N to P.	Distillate pavement, sidewalk, curb, etc.	2,929.23	\$139.33	\$8,377.12	\$8,516.45
Indiana ave., NW., 1st to 3d.	Asphalt pavement, sidewalk, curb, etc.	8,530.28	597.83	25,915.87	26,543.70
North Capitol st., NW., Mass. ave. to L.	do	7,456.80	301.50	19,760.26	20,061.76
North Capitol st., NE., Mass. ave. to I.	do				
I st., NW., 18th st. to 21st st.	do	5,536.60	433.83	14,985.64	15,419.47
4½ st., NW., Penn. ave. to Md. ave.	Distillate pavement, sidewalk, curb, etc.	2,286.83	86.00	6,733.26	6,859.26
6th st., NW., G to N. Y. ave.	do	6,896.22	215.79	19,148.22	19,364.01
14th st., NW., B to Penn. ave.	do	8,582.53	368.79	24,113.33	24,482.12
H st., NW., 4th to 7th.	do	6,381.10	527.12	20,444.33	20,971.45
O st., NW., 20th to 21st.	do	2,010.97	90.33	5,285.13	5,375.46
Q st., NW., 20th to 22d.	do	2,541.93	178.50	6,015.30	6,188.80
I st., NW., 18th to Penn. ave.	French mastic sidewalk.	3,056.41	.....	5,143.41	5,143.41
C st., SW., 4½ to 6th....	Distillate pavement, sidewalks, curb, etc.	2,273.06	116.80	7,915.61	8,032.41
C st., SW., 6th to 7th ..	Granite block pavement	1,830.38	168.00	4,655.37	4,823.37
E st., SW., 3d to 4½	Distillate pavement, sidewalks, curb, etc.	2,370.59	180.80	5,785.63	5,966.43
Maryland ave., NE., 1st. to 4th.	Asphalt, block pavement, sidewalks, curb, etc.	11,535.48	340.00	26,944.66	27,284.66
4th st., NE., Md. ave. to Mass. ave.	do	1,912.16	59.98	4,472.46	4,532.44
6th st., NE., Md. ave. to Mass. ave.	do	1,997.60	64.40	4,698.86	4,763.26
C st., NE., 4th to 6th ...	do	4,478.23	164.25	12,493.13	12,657.38
22d st., NW., O to P....	Dumping surplus earth, filling to grade, 2,202 cubic yards.	.....	.....	220.20	220.20
13th st., NW., T to Boundary.	Grading, graveling, sidewalks, curb, and gutter.	5,016.53	198.35	5,444.09	5,642.44
E st., SW., S. Cap. to 1st.	do	2,420.32	38.00	2,010.34	2,048.34
Virginia ave., SW., 1st to 2d.	do	2,776.76	40.00	1,264.79	1,304.79
I and K sts., SW., S. Cap. to Canal.	Dumping surplus earth, filling to grade (6,826 cubic yards).	.....	.....	341.30	341.30
3d st., SW., F to N	Grade, graveling, sidewalks, curb, and gutters.	11,653.61	371.40	12,650.59	13,021.99
8th st., SE., E. Cap. to Penn. ave.	do	5,892.13	235.80	8,332.71	8,568.51
E st., SE., S. Cap. to 3d.	do	5,675.88	282.00	7,159.30	7,441.30
Total .....	.....	116,011.69	5,199.00	260,375.91	265,574.71

RECAPITULATION.

Section.	Amount.	Per cent.
Georgetown	\$8,516.45	3.2
Northwest	146,241.20	55.1
Southwest	35,538.63	13.4
Southeast	16,009.81	6.0
Northeast	59,268.62	22.3
Material (unexpended)	425.29	.....
Total	266,000.00	100.0

The last item is for granite blocks, curb, and other material purchased but unexpended. The cost of inspection is less than 2 per cent. of the total expenditure.

As before stated, the estimates of 1884-'85, on which this appropriation was based, included the cost of roadway pavements only. When I reported to you for duty in June of last year, no detailed estimates had

been made of the total cost of improvements on any of the specified streets. The preparation of these data from actual measurement was a work of time, and coincident with the progress of the improvements. When completed, it was found that the total cost of the work actually under contract would be in excess of the appropriation, and a further revision of the schedule was necessary. Work had not been begun on Dunbarton avenue, Georgetown, and on Virginia avenue, SE. had been deferred until the spring of 1887. These streets, as well as others, were therefore omitted, and Georgetown and the southeast sections suffered the greatest reductions. It had also been proposed to improve Maryland avenue with a 20-foot center parking and two roadways, each 20 feet wide; but section 225 of the Revised Statutes, D. C. prohibits the reduction of any street or avenue to a less width of roadway than 35 feet, and Maryland avenue was therefore paved full width, thereby increasing the cost and swelling the allotment of the northeast section.

Expenditures for improvements of streets and avenues.

Year.	Georgetown.		Northwest.		Southwest.		Southeast.		Northeast.	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
1878-'79	\$40,892.78	9.4	\$311,427.21	71.8	\$19,882.85	4.6	\$47,706.74	11.0	\$13,730.14	3.2
1879-'80	11,931.82	7.1	96,213.15	56.9	15,185.90	9.0	28,115.93	16.6	17,637.69	10.4
1880-'81	20,920.80	7.0	223,416.18	74.5	30,129.96	10.0	8,187.74	2.7	17,629.17	5.7
1881-'82	14,159.07	5.0	168,478.97	60.0	46,618.20	16.5	35,073.35	12.5	16,906.24	6.0
1882-'83	11,240.09	3.7	223,790.44	73.2	20,495.57	6.7	47,214.88	15.4	2,987.44	1.0
1883-'84	18,165.29	5.3	175,632.66	50.8	60,319.16	17.4	26,543.53	7.7	65,149.01	18.8
1884-'85	21,945.13	8.2	116,671.93	43.9	48,700.73	18.3	42,193.51	15.9	36,503.06	13.7
1885-'86	29,051.92	11.1	116,142.67	44.4	27,599.29	10.5	60,404.41	23.1	28,472.91	10.9
1886-'87	8,516.45	3.2	146,241.20	55.1	35,538.63	13.4	16,009.81	6.0	59,268.62	22.3
1887-'88*	45,000.00	12.9	110,000.00	40.0	50,000.00	14.3	65,000.00	18.5	50,000.00	14.3
Total	221,823.35	7.29	1,718,014.41	57.06	354,470.29	12.07	76,449.90	12.94	308,284.28	10.64

*Appropriated.

Grand total, \$2,979,042.23.

Estimates and preliminary schedules for street improvements during the fiscal year 1888-'89 have already been submitted.

Objection can, of course, be urged against any arbitrary rule that may be adopted for the distribution of appropriations. Some rule, however, is necessary. The Commissioners based their estimates for the current year on the mean or average per cent. of assessed valuation, population, and area in each section. If the per cent. of square yards of streets to be improved be also included, estimates might be based on the mean per cent. of these four items, although there are still special data other than these to be considered. The following table gives the total square yards of streets and avenues within the city limits which have yet to be improved:

Streets and avenues to be improved (July 1, 1887).

Present condition.	Georgetown.	Northwest.	Southwest.	Southeast.	Northeast.	Total.
	<i>Sq. yards.</i>	<i>Sq. yards.</i>	<i>Sq. yards.</i>	<i>Sq. yards.</i>	<i>Sq. yards.</i>	<i>Sq. yards.</i>
Unimproved	78,491	355,509	209,304	502,878	392,808	1,539,050
Gravel	30,972	208,684	62,679	121,330	302,334	725,999
Macadam	2,810	125,397	19,890	71,352	5,560	225,009
Cobble	28,073	117,410	84,118	24,733	17,569	271,903
Wood .....	.....	7,000	.....	11,403	.....	18,403
Total	140,346	814,000	375,991	731,696	718,331	2,780,364

The following table gives a further classification into "unimproved" and "partially improved" streets:

Streets and avenues to be improved (July 1, 1887.)

Section.	Unimproved streets.		Partially improved streets.		Total streets to be improved.	
	Sq. yards.	Pr. ct.	Sq. yards.	Pr. ct.	Sq. yards.	Pr. ct.
Georgetown.....	78,491	5.1	61,855	4.9	140,346	5.0
Northwest.....	355,509	23.1	458,491	36.9	814,000	29.3
Southwest.....	209,304	13.6	166,687	13.5	375,991	13.5
Southeast.....	502,878	33.0	228,818	18.5	731,696	26.3
Northeast.....	392,868	25.2	325,463	26.2	718,331	25.9
Total.....	1,539,050	100.0	1,241,314	100.0	2,780,364	100.0

The above tables include the streets and avenues in the schedule for 1887-'88 now under contract, amounting to 105,000 square yards (cost, \$300,000). The improvement of these streets with standard roadway pavement, curb, sidewalk, etc., at an average cost of \$2.75 per square yard, will require an expenditure of \$7,646,001.

Including the per cent. of square yards of streets to be improved, as suggested above, we have the following:

Proposed basis for estimates.

Section.	Taxable valuations.		Area.		Population.		Streets to be improved.		Mean or average per cent.	Appropriation 1887-'88, per cent.
	Amount.	Per cent.	Acres.	Per cent.	Number.	Per cent.	Square yards.	Per cent.		
Georgetown.....	4,615,273	4.6	590.95	9.2	14,322	7.6	140,346	5.0	6.6	12.8
Northwest.....	78,525,687	78.0	2,720.79	41.5	107,430	57.0	814,000	29.3	51.4	40.0
Southwest.....	6,366,756	6.3	957.42	14.6	27,288	14.4	375,991	13.5	12.2	14.3
Southeast.....	6,191,195	6.1	1,247.40	19.0	21,561	11.4	731,696	26.3	15.7	18.6
Northeast.....	4,986,908	5.0	1,033.56	15.7	18,008	9.6	718,331	25.9	14.1	14.3
Total.....	100,685,819	100.0	6,550.12	100.0	188,549	100.0	2,780,364	100.0	100.0	100.0

NOTE.—The distribution of the appropriation for 1887-'88 is added for comparison.

As modifying this distribution, all wooden pavements should be replaced, and, in particular cases, special attention is needful to certain lines of communication, industrial considerations, and building developments.

Upon investigation, it appears that wooden pavements originally laid on the following streets and avenues have never been replaced by improved pavements:

C street southeast, from Fourth to Sixth streets on north and south sides of Seward Place.

North Carolina avenue southeast, through Seward Place.

Fifth street southeast, through Seward Place.

Fourth street southeast, from Pennsylvania avenue to C street.

D street southeast, from Seventh to Ninth streets, on south side of square.

D street southeast, from Pennsylvania avenue to Eighth street, on north side of square.

North Carolina avenue southeast, from Seventh street to Pennsylvania avenue, through square.

Seventh street southeast, from D street to south side of South Carolina avenue.

These streets are given on the street pavement map in the Commissioners' first annual report (for the fiscal year 1878-'79) as paved with wood. As the wooden pavements deteriorated, they were in many instances covered with gravel to improve the roadway, and in the annual report of 1880, and all subsequent reports, the above specified streets appear as graveled. In the meantime all other wood pavements in the city have been replaced with sheet or block asphalt, coal-tar distillate or granite blocks, and these streets should be paved during the ensuing fiscal year. The cost of such improvements should properly be in excess of the usual allotment to the southeast section.

It will be noticed that of the new pavements laid in 1886-'87, 27 per cent. were sheet asphalt, 2 per cent. granite block, 25 per cent. asphalt block, and 46 per cent. sheet coal-tar distillate. As this is the first year, since the organization of the present form of District government that coal-tar distillate pavements have been laid in the streets of Washington, a few words in this connection will not be inappropriate.

Previous to 1878, 745,305 square yards of coal-tar pavements of various kinds were laid at prices ranging from \$1.74 to \$3.70 per square yard. Many of these pavements proved unreliable, either through inherent defects in the materials used or faulty methods of mixing and laying. Some went to pieces in a few years and others deteriorated so rapidly as to soon place the annual cost of maintenance at excessively high figures. Of the so-called Evans pavement, 190,663 square yards were laid, mostly in 1873. When only two years old, nearly all these pavements were re-surfaced at an average cost of \$1.09 per square yard. As late as 1877, Lieutenant Hoxie estimated 20 cents per yard per annum as the cost of maintaining coal-tar pavements.

The fault was believed to lie in the material itself, and the first Board of Commissioners appointed under the act of June 11, 1878, expressed their objections to these pavements as follows :

In determining the class of pavements to be hereafter laid, the Commissioners * * * maintain that each class of pavement must prove its qualities under the test of actual traffic before being extensively laid upon the streets of this city.

While some of the later and better class of coal-tar pavements show good surfaces and give fair promise of a reasonable durability, yet the general condition of this class of pavement in the city is such as to lead to their condemnation as faulty in principle and deficient in vitality. The use of bituminous bases has also given rise to many perplexing problems in the grades of streets upon which they have been used, and as, when properly laid, their cost is as great, if not greater, than the hydraulic concrete, they have been definitely abandoned.

The conclusion then reached has been consistently adhered to up to the past year. Asphalt surface on an hydraulic cement concrete base became the standard smooth pavement of Washington.

The defect believed to be inherent in all paving compounds into which coal-tar enters as an ingredient was thus stated in the report of the board of experts made to the mayor of Philadelphia in July, 1884 :

The coal-tar pavement is not recommended by us, for the reason that the cementing substance is a product of gas-tar, obtained by interrupting the destructive distillation of that compound after it has reached a certain point. When placed on the street and subjected to atmospheric influences, a slow and gradual oxidation takes place, by which the tar loses its cementing qualities and becomes inert. The particles of sand then lose their cohesion and the pavement rapidly disintegrates.

Wherever laid in the United States, coal-tar pavements have, as a rule, given little satisfaction, and the first Board of Commissioners simply gave voice to public opinion in discarding them.

In the meantime, however, a period of nine years have elapsed, and the well-preserved condition of "some of the later and better class of coal tar pavements" have led many to believe that the faults of the

earlier pavements are not irremediable, and that with the experience gained and with proper care such pavements can be laid nearly equal to the asphalt in most respects, and superior in the quality of economy of the first cost, as well as in some other minor particulars.

The cost of maintenance is a very important element to consider in determining the value of a pavement. From the office records I have had prepared a table showing the original cost and yearly expense for maintenance, including resurfacing, of each street pavement laid since 1871. Consolidating the different pavements of each class, the following results are obtained:

Maintenance of coal-tar distillate and asphalt pavements.

Pavements.	Square yards.	Total cost.	Average cost per square yard.	Cost of repairs per 1,000 square yards.				
				2d year.	3d year.	4th year.	5th year.	6th year.
Coal-tar distillate:								
Scharf	167,361	\$525,856	\$3. 14	\$118. 79	\$27. 06	\$18. 26	\$79. 45	\$6. 92
Evans	190,663	609,373	3. 20	1,094. 66	.....	4. 94	1. 30	80. 73
Vulcanite	158,595	511,847	3. 23	1. 09	.....	9. 26	1. 07	26. 88
Abbott	83,751	268,103	3. 20	.....	57. 01	.....	119. 70	14. 12
Parisen	66,488	212,751	3. 20	189. 16	333. 78	74. 29	.....	148. 28
District of Columbia specifications	78,447	193,560	2. 47	2. 47	. 63	11. 51	106. 66	305. 65
Total	745,305	2,321,490	3. 11	324. 07	42. 33	28. 62	31. 34	90. 28
Second total (resurfaced Evans included as Scharf pavements) .....	.....	.....	.....	45. 29	42. 79	15. 78	43. 70	83. 89
Asphalt:								
Grahamite	55,112	207,309	3. 76	. 18	. 04	. 14	2. 46	8. 73
Neuchatel rock	31,389	121,451	3. 87	.....	.....	. 42	2. 54	8. 00
Total	86,501	328,760	3. 80	. 18	. 04	. 24	2. 49	8. 47

Pavements.	Cost of repairs per 1,000 square yards.									Mean per an- num.
	7th year.	8th year.	9th year.	10th year.	11th year.	12th year.	13th year.	14th year.	15th year.	
Coal-tar distillate:										
Scharf	\$60.33	\$45.76	\$184.33	\$14.19	\$38.41	\$26.71	\$72.78	\$103.40	\$2.48	\$57.06
Evans	3.82	53.88	5.98	8.32	53.36	6.55	6.78	2.68	.....	101.77
Vulcanite	66.05	62.86	44.50	10.04	22.84	72.56	63.17	.....	.....	29.26
Abbott	150.90	206.40	8.50	15.20	14.67	273.21	84.04	101.80	.....	80.43
Parisen	144.35	43.79	24.20	129.99	179.27	104.47	128.49	9.76	.....	116.13
District of Columbia specifications	60.42	21.72	6.76	.....	.....	.....	.....	.....	.....	72.27
Total	71.07	44.59	57.08	23.13	81.61	76.02	54.31	83.29	2.48	72.16
Second total (resur- faced Evans in- cluded as Scharf pavements)	65.24	58.02	68.38	22.12	35.60	132.83	76.29	83.29	2.48	55.41
Asphalt:										
Grahamite	17.25	15.43	119.10	.....	.....	.....	.....	.....	.....	20.42
Neuchatel rock	14.85	17.39	75.15	23.58	.....	.....	.....	.....	.....	15.77
Total	16.38	16.21	103.15	23.58	.....	.....	.....	.....	.....	18.97

The figures for distillate pavements are for the following number of square yards:

	Square yards.
10th and previous years	745,305
10th year	685,431
11th year	662,292
12th year	365,298
13th year	343,887
14th year	135,796
15th year	17,017

These streets are given on the street pavement map in the Commissioners' first annual report (for the fiscal year 1878-'79) as paved with wood. As the wooden pavements deteriorated, they were in many instances covered with gravel to improve the roadway, and in the annual report of 1880, and all subsequent reports, the above specified streets appear as graveled. In the meantime all other wood pavements in the city have been replaced with sheet or block asphalt, coal-tar distillate or granite blocks, and these streets should be paved during the ensuing fiscal year. The cost of such improvements should properly be in excess of the usual allotment to the southeast section.

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Vulcanite	158,595	511,847	3.23	1.09		9.26	1.07	26.88
Abbott	83,751	268,103	3.20		57.01		119.70	14.12
Parisen	66,488	212,751	3.20	189.16	333.78	74.29		148.28
District of Columbia specifications	78,447	193,560	2.47	2.47	.63	11.51	106.66	305.65
Total	745,305	2,321,490	3.11	324.07	42.33	28.62	31.34	90.28
Second total (resurfaced Evans included as Scharf pavements)				45.29	42.79	15.78	43.70	83.89
Asphalt:								
Grahamite	55,112	207,309	3.76	.18	.04	.14	2.46	8.73
Neuchatel rock	31,389	121,451	3.87			.42	2.54	8.00
Total	86,501	328,760	3.80	.18	.04	.24	2.49	8.47

Pavements.	Cost of repairs per 1,000 square yards.									Mean per annum.
	7th year.	8th year.	9th year.	10th year.	11th year.	12th year.	13th year.	14th year.	15th year.	
Coal-tar distillate:										
Scharf	\$60.33	\$45.76	\$184.33	\$14.19	\$38.41	\$26.71	\$72.78	\$103.40	\$2.48	\$57.06
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Vulcanite	66.05	62.86	44.50	10.04	22.84	72.56	63.17			29.26
Abbott	150.90	206.40	8.50	15.20	14.67	273.21	84.04	101.80		80.43
Parisen	144.35	43.79	24.20	129.99	179.27	104.47	128.49	9.76	.....	116.13
District of Columbia specifications	60.42	21.72	6.76	.....	.....	.....	.....	.....	.....	72.27
Total	71.07	44.59	57.08	23.13	81.61	76.02	54.31	83.29	2.48	72.16
Second total (resurfaced Evans included as Scharf pavements)	65.24	58.02	68.38	22.12	35.60	132.83	76.29	83.29	2.48	55.41
Asphalt:										
Grahamite	17.25	15.43	119.10	.....	.....	.....	.....	.....	.....	20.42
Neuchatel rock	14.85	17.39	75.15	23.58	.....	.....	.....	.....	.....	15.77
Total	16.38	16.21	103.15	23.58	.....	.....	.....	.....	.....	18.97

The figures for distillate pavements are for the following number of square yards:

	Square yards.
9th and previous years	745,305
10th year	685,431
11th year	662,292
12th year	365,298
13th year	343,887
14th year	135,796
15th year	17,017

These pavements are theoretically similar in composition, consisting of a bituminous base and binder and a wearing surface in which coal-tar distillate is the principal ingredient. The Scharf and Vulcanite pavements and those laid under the District of Columbia specifications contain 25 per cent. of asphalt in the wearing surface. The common designations of these pavements are used, being generally the name of the contractor, the name of the patentee, or the name under which the special pavement was patented.

From the table it appears that the average annual expenditure for maintenance of the coal-tar pavements for the fifteen years ending July 1, 1886, has been 7.2 cents per square yard. Of the Evans pavements, 157,324 square yards were resurfaced by Scharf within two years after laying, and virtually become Scharf pavements. Considering them as such, the second total is obtained as given in the table, with a mean average annual expenditure for maintenance of $5\frac{1}{2}$ cents per square yard. For the first five years the annual average is 3.7 cents; for the second five years, 6 cents; for the last five years, 6.6 cents. That a durable coal-tar pavement can be laid is proven by the fact that the 158,595 square yards of Vulcanite pavements have only averaged 2.9 cents per square yard per annum for fourteen years' maintenance, the average being 0.3 cents per square yard for the first five years, 4.2 cents for the second five years, and 4 cents for the last four years. Had all of these pavements been resurfaced during the past year at the contract price of \$1.05 per square yard, they would be under guaranty for five years from July 1, 1887, and the mean annual average expense to the District for maintenance, for a period of twenty years, would not exceed $7\frac{1}{2}$ cents per square yard.

Trinidad and Neufchatel rock asphalt pavements were laid on Pennsylvania avenue and F street previous to 1878. The following table shows the comparative cost of maintenance of the asphalt and coal-tar pavements formerly laid:

Comparative cost of maintenance of coal-tar and asphalt pavements.

Class of pavements.	Number of square yards.	Average cost of maintenance per square yard per annum.	
		For nine years.	For ten years.
Coal-tar distillate:			
All, including Vulcanite	745,305	\$0.086	\$0.079
Vulcanite	158,595	.026	.025
Asphalt:			
Neufchatel rock	31,389	.015	.016
Grahamite	55,112	.020	.....

From this table it will be seen that as the record stands now even the Vulcanite pavement is somewhat more expensive to maintain than the older asphalt pavements.

The present standard asphalt and distillate pavements are not included in the above table.

The perplexing problems in the grades of streets upon which bituminous bases have been laid result from the fact that the three courses of distillate pavements, the base, the binder, and the wearing surface, coalesce so as to form a solid mass 6 inches in thickness. The wear on the surface is never quite uniform, and when the binder or base becomes

exposed on the most traveled part of the street the pavement near the gutter may be worn but slightly. To resurface properly, the remnants of the old surface should be removed and the new surface, $1\frac{1}{2}$ inches thick, laid directly upon the binder. It is, however, impracticable to strip a coal-tar surface. It may be broken by the pick and bar, but it breaks as readily in the base or binder as at the original line of demarkation. In fact, there is no such line. The practice is to cut out what may be necessary near the curb and put a new surface on the roadway as it stands. The result is to raise the level of the roadway at every resurfacing, or, if the original level at the curb be maintained by the method of cutting out stated, to increase the crown of the street, but as such pavements will not, as a rule, require resurfacing at more frequent intervals than every fifteen years, and as each resurfacing should not raise the level more than one-half inch, the upward growth will not exceed $3\frac{1}{2}$ inches per century.

The asphalt pavement on a hydraulic base is free from this particular defect. There is little cohesion between the base and the surface, and the latter is easily stripped. This advantage, however, is not without its corresponding defect. The lack of cohesion diminishes the longitudinal strength, and the asphalt is in some cases pushed, pulled, or stretched by traffic into a wave-like surface, disagreeable to travel, and requiring repairs which otherwise would be unnecessary. It is possible that this defect may be caused to some extent by the depth of the asphalt mixture ($2\frac{1}{2}$ inches).

On the 15th of August, 1887, repairs were made to the asphalt pavement on Pennsylvania avenue between Seventh and Eighth streets northwest, where, under the abnormal heat, waves had developed to an unusual extent. The depth of a depression, measured from a straight-edge laid on the crests, amounted in one case to $4\frac{1}{2}$ inches. The normal thickness of the wearing surface at this point is about $2\frac{1}{4}$ inches. The thickness, measured at the crest of one of the waves, was 4 inches, and at the corresponding depression $1\frac{1}{2}$ inches. The mean of these measurements is $2\frac{3}{4}$ inches, showing that the fault was not in the wearing away of the material. The asphalt was all there, only it had been pushed out of place.

Experience in this and similar cases suggests the following:

(1) The best time for making general repairs to asphalt pavements is the spring or fall, preferably between September 15 and November 15.

(2) When repairs are necessary in the summer or winter, special care should be taken to see that the material is not mixed too hard in the former case or too rich in the latter.

(3) In general, patches are not protected from traffic for a sufficient length of time after being laid.

Weather cracks in part result from the same cause—lack of longitudinal strength. With the idea of remedying these defects to some extent, the specifications for asphalt pavements, which heretofore have required the asphalt to be laid in two courses, the cushion coat and the wearing surface, were changed during the past year to require the asphalt to be laid in one course, $2\frac{1}{2}$ inches thick when compressed.

So far as my observations extend, the distillate pavements are freer from the defects of wave surfaces and weather cracks than the asphalt.

The conditions affecting the durability of pavements are quite peculiar in this city. Pavements suited to this latitude and climate, to our broad streets and light traffic, may be quite unsuited to other cities. On the other hand pavements of the strength and durability requisite for other

cities may be unnecessarily expensive for Washington. Climate is a very important element to consider in the selection of the most durable or best pavement. Our pavements suffer more during the three months of winter than during the remaining nine months of the year.

For fifteen years some of the distillate pavements have stood the test of service, and though many have failed, the record of the Vulcanite and Scharf show that such pavements are well suited to local conditions, if properly laid.

The return to the distillate pavements was virtually forced upon the Commissioners by the clause in the appropriation act for 1886-'87, which—

Provided also, Under this appropriation, no contract shall be made for making or repairing concrete or asphalt pavement at a higher price than \$2 per square yard for a quality equal to the best heretofore laid in the District.

The lowest proposal received for the standard asphalt pavement was \$2.25 per square yard (the ruling price for the last few years). This bid could not be considered, and as smooth pavements had become a necessary luxury in this city, the bids for asphalt block and coal tar distillate were perforce accepted.

A bid was submitted for a special asphalt pavement similar in all respects to the standard, except that the base was to be 4 instead of 6 inches in thickness, making the total thickness $6\frac{1}{2}$ inches, or one-half inch more than the distillate pavements, and the concrete was to be made with a mortar composed of three parts sand to one part cement, the cement being 25 per cent. Portland and 75 per cent. American. It was believed that the extra strength obtained by the admixture of Portland cement would counterbalance the diminution in depth of base, and the contract as finally made contained the following provisions:

The cement mortar of the hydraulic concrete base must show a tensile strength of at least 35 pounds to the square inch at the end of one week, and at least 75 pounds to the square inch at the end of one month, and, if necessary, the proportion of sand will be diminished, or the proportion of Portland cement increased, until the above specified strength is obtained.

3. In view of the hitherto untried character of a 4-inch base and of the provisions of the law that all pavements laid must be of the best of their respective kinds, it is hereby expressly stipulated, that should the pavement herein specified exhibit any general tendency to failure previous to the expiration of the five years guaranty, the contractors will take up and relay it with a new pavement in accordance with the heretofore accepted specifications.

With these amendments the bid at \$2 per square yard was accepted, and a limited area contracted for. To obtain the strength required the extra part of sand was omitted.

The appropriation act for the fiscal year 1887-'88, however, contains the following clause:

Provided, That under appropriations contained in this act no contract shall be made for making or repairing concrete or asphalt pavement at a higher price than \$2 per square yard for a quality equal to the best laid in the District prior to July 1, 1886, and with same depth of base.

Proposals were advertised for in April last, but no bid was received for asphalt pavements. It is to be regretted that the law should virtually prohibit the laying of the sheet asphalt pavements which have given so great satisfaction and shown such excellent qualities. In view of the position taken by Congress, which may perhaps be maintained in future appropriation acts, special attention has been given to the other classes of smooth pavements. These are principally: (1) Coal tar distillate and asphalt, (2) asphalt block, (3) wood, (4) brick.

As compared with the asphalt the defects of the distillate pavement are:

1. The wearing surface consists of 75 per cent. coal tar, which material contains a greater or less percentage of objectionable matter, and can rarely be obtained of uniform quality.

2. The wearing surface is only $1\frac{1}{2}$ inches thick, and therefore requires renewal at more frequent intervals than the $2\frac{1}{2}$ -inch asphalt wearing surface.

3. The cost of maintenance is slightly greater than with the asphalt.

4. The pavement is not quite so pleasing to the eye as the asphalt, either in color or smoothness of surface.

5. Coal tar softens at a lower temperature than asphalt. It is therefore more liable to deformation in hot weather.

6. The base (base proper and binder) is $4\frac{1}{2}$ inches in thickness against the 6-inch hydraulic base of the asphalt. (This point is, however, of little importance in this city, as the $4\frac{1}{2}$ inch base has proved itself to be ample to sustain the traffic.)

The advantages of the distillate pavement are:

1. Its first cost is less than the asphalt.

2. The surface is more granular and less slippery than the asphalt.

3. The "binder" binds the base and wearing surface firmly together and eliminates to a great extent the faults of weather cracks and wave surfaces.

4. It can be laid from curb to curb, as it will not "rot" in the gutters as does the asphalt. (Asphalt pavements also disintegrate badly where weather cracks have formed, these acting as gutters to receive and hold the surface drainage.)

With proper supervision and inspection, coal tar of more uniform and better quality can unquestionably be obtained.

The softness of the coal tar pavement in hot weather seems to preclude any considerable increase in thickness of the wearing surface.

Distillate pavements constructed of carefully selected and combined material and properly laid will cost but little, if any, more than the asphalt for maintenance.

The thickness of base can, of course, be increased to any extent that may be found necessary. As before stated, $4\frac{1}{2}$ inches is sufficient for our streets.

The other faults can not easily be remedied.

The defects of weather cracks and wave surfaces in asphalt pavements could probably be remedied to a certain extent by reducing the thickness of the wearing surface to 2 inches or even $1\frac{3}{4}$ inches and interposing a 2-inch layer of binder between the surface and the base. The latter could then be reduced to 5 inches or less.

At present prices the cost of such a pavement would be, per square yard:

5-inch hydraulic base	\$0. 694
2-inch binder ($1\frac{1}{2}$ when compacted).....	0. 394
2-inch wearing surface (compactd).....	1. 176
	2. 264

These items are based on the current prices for repairs to concrete pavements. The pavement could be laid in quantity at a less price than the standard asphalt. It is of the same thickness, $8\frac{1}{2}$ inches.

Asphalt blocks do not make a suitable pavement for narrow, well-traveled streets, for the general surface of streets containing railway tracks, or for streets of heavy traffic. Whenever laid on such streets

they have heretofore failed to show the requisite endurance. They are only recommended for residence streets and streets and alleys of light traffic. In such locations they make an excellent pavement; smooth, durable, clean, healthy, and pleasing in appearance.

Only a small proportion of the streets of any city are heavy-traffic streets, and there is a very large field open to light-traffic pavements. It is a great mistake to suppose that because a pavement will not stand heavy traffic it is worthless. To find suitable pavements for the downtown streets in New York city, for example, and for the cross-streets above Thirty-fourth street or Forty-second street, are two different problems, which must be solved in different ways and upon different data.

On such of our streets as Jefferson, Riggs, Hillyer, and Sunderland Places, etc., and the residence streets on Capitol Hill, where the traffic is light, asphalt blocks make an excellent pavement, and 95,889 square yards of such carriage-ways have been paved with this material. With the exception of the poorer qualities of blocks furnished previous to 1882-'83, they have given general satisfaction, and the manufacturers are constantly making improvements in their methods and the quality of their product. My report of September 1, 1887 (appended), contains the latest available information on this subject.

The cedar-block pavements used so extensively throughout the Northwest are cheap (\$1 to \$1.30 per square yard), but deteriorate rapidly, are objectionable on sanitary grounds, and are anything but smooth after a brief wear. Creosoted wooden blocks, on a hydraulic cement foundation, when newly laid, approach nearer the ideal block pavement than any other form. The specifications of the Ker Pavement Company of New York (Foreign and Colonial Paving Company of London) are a fair type of this class. The Portland-cement foundation is 6 inches thick. On this are laid the creosoted wooden blocks, 6 by 9 by 3 inches in dimensions. The wood fiber is placed vertically, depth 6 inches. Three-eighth-inch joints are left, which are filled 1 inch with hot asphalt and 5 inches with Portland cement grouting. The resulting pavement is clean, noiseless, smooth, and not slippery. Many hundreds of thousands of square yards of this pavement have been laid in London, Paris, and other large European cities since 1877. They are generally laid under long guaranties, ten to twenty years, and although very expensive, have certain advantages.

The record of brick pavements is an irregular one. In West Virginia, in Steubenville, Ohio, in Bloomington and Jacksonville, Ill., in Saint Louis, and other places satisfactory pavements have been laid. In other cities and on second trials failures have resulted. It has been shown by actual test that it is possible to make a durable pavement of fire-brick. It has been also conclusively shown that it is a very difficult task to achieve, and that the great trouble consists in the impracticability of producing bricks of uniform quality. The great success of the first Saint Louis test led to a careful investigation by a citizens' committee. Bricks made of the same clay as before, burned in the same kiln, by the same workmen, and apparently in the same manner, were in effect worthless for paving purposes, and the committee reluctantly reported that the problem of a cheap, durable, and satisfactory pavement had not yet been solved.

A bid was submitted in April last for laying brick pavements at \$1.87 per square yard, 11 cents per yard cheaper than the distillate; but the saving of 11 cents per yard was not deemed a sufficient inducement to warrant the contracting for such pavements in the absence of any test of their durability on the streets of this city.

Sidewalks.—In connection with street improvements and out of the appropriation therefor, foot-pavements were laid during the year as follows :

	Square yards.
Brick, new	30,000
Brick relaid	16,763
Mastic	3,056
Total	49,819

The mastic walk was laid on I street northwest, between Eighteenth and Twenty-first streets.

Other walks were laid out of the appropriation for "Current repairs" and "Materials for permit work," the aggregate for the year being 86,929 square yards.

	Square yards.
Asphalt tile	7,064
Asphalt block	1,365
Mastic	3,056
Brick	75,444

The following table shows the current prices for sidewalks :

Kind.	Cost of material per square yard.	Cost of labor per square yard.	Total cost per square yard.
Granolithic (artificial stone)	\$1.80	\$1.35	\$3.15
Asphalt block	2.04	.40	2.44
Asphalt tile, square	1.35	.40	1.75
Asphalt tile, hexagonal	1.53	.40	1.93
Mastic			1.60
Brick	.46	.25	.71

No improvement adds more to the public comfort in a well-regulated city than good sidewalks. While brick sidewalks are to be commended for their cheapness, they are deficient in nearly every other quality. The numerous joints, being far from water tight, admit and hold the surface drainage, and the small bearing surface and water-soaked foundation make it impossible to insure a uniform surface under traffic. Bricks are not homogeneous in structure and wear unevenly; they absorb water and are slippery with frost. No walk is more uncomfortable than a worn-brick pavement, many examples of which are to be found in this city.

There are two general classes of improved footwalks, viz, block pavements and sheet pavements. The former have the general advantages that they can be laid without any special plant and that the material can be removed and relaid whenever it is necessary to cut trenches for water pipes, sewers, gas pipes, etc. The sheet pavements have the general advantages that they are more impervious to water, more homogeneous in structure, smoother to the foot, and as a rule wear more evenly.

Of the block pavements, good flagging is generally the most durable. It is not easily obtained in this vicinity and is too expensive for general use. Bricks are cheap, but very unsatisfactory after a few years' wear. Asphalt tiles make an excellent pavement, but are quite expensive. The tiles now furnished under contract are too small, being only 8 inches square. Hexagonal tiles, from 12 to 14 inches across the hexagon, would be preferable, giving a better bearing surface, reducing the length of joints, and yet retaining proper transverse strength because of their

shape. Asphalt tiles as now manufactured are compressed in molds by plungers, the pressure being about 75 tons, or 1.17 tons per square inch. For a 14-inch hexagon the area is about 170 square inches, which at the same rate would require a total pressure of about 200 tons. This would necessitate new and more powerful machines, a probable increase to 3 inches in thickness, and a corresponding increase in cost.

Asphalt blocks are more expensive than tiles, but are sometimes laid in front of business houses where heavy weights are handled across the sidewalk, and are commonly used in alleys.

Of the sheet pavement we have numerous examples of the granolithic, artificial stone, mastic, sheet asphalt, and coal-tar. The granolithic pavements are laid at private expense. In 1882 artificial stone walks were laid under contract on the north side of Pennsylvania avenue from First street west to Thirteenth street. The average contract cost per square yard was \$1.60. The mastic walk laid on I street last year cost \$1.60 per square yard. In 1880 sheet asphalt pavements were laid on the north side of Pennsylvania avenue between Seventh and Ninth streets and Thirteenth and Fourteenth streets. These walks are on the south side of the two public reservations, and will probably never be disturbed for the purpose of laying pipes. They cost originally 99 cents per square yard. These pavements show little or no signs of wear, yet they are subjected to heavy foot traffic. Bids were received this year for sheet asphalt sidewalk at \$1.47 per square yard, but as the estimates had been prepared on the basis of brick walks, it will be necessary to lay brick.

The coal-tar walks in this city are unmitigated nuisances, though much better walks composed of this material could probably be laid at the present time.

More attention has been given to the roadway pavements in the past eight or ten years than to the sidewalks. Many of the large cities in this country have discarded brick as a paving material long ago, and I think the popular verdict here is that the brick sidewalks should go. The only question is, What material shall be substituted for brick?

The greatest enemy to our walks is the tree root, and the great number of and small intervals between trees make this evil of serious moment. Walks must, however, be laid subject to this condition, which would tend to exclude sheet pavements until after the trees had attained a good growth.

I saw in Saint Paul last winter artificial stone sidewalks made of hexagonal blocks laid on a concrete base. The blocks were 2 inches thick and 18 inches across the hexagon, made of Portland cement and sand, and molded by machinery under pressure. For one-third of the thickness the cement and sand are mixed in the proportions of 1 to 3 or 5, the remaining two-thirds, constituting the top of the block, being mixed 1 to 1. These walks are exceedingly durable, very handsome, and are laid at a cost of 18 cents per square foot, or \$1.62 per square yard. If blocks of equal durability and cost can be manufactured in this city, I would recommend that this be tried as the best pavement for Washington of which I have any knowledge.

Citizens have taken advantage of the permit system to lay new and improved footways in place of the old dilapidated brick walks. As a general rule the walks laid in this manner have been composed of asphalt tiles; but there is no reason why the more extended use of the durable granolithic pavements should not be encouraged by the District contributing \$1.80 per square yard, which is the estimated cost of the materials composing this pavement.

Curb.—Out of the appropriation for street improvements, 1886-'87, there have been set:

	Feet.
Granite curb.....	4,233.46
Bluestone curb.....	14,754.96
Old curb reset or set in new position.....	23,309.00
Total.....	42,297.42

Out of the appropriation for "current repairs" and "materials for permit work" there have been set:

	Feet.
Bluestone curb.....	9,490
Granite curb.....	921

Grand total, 1886-'87:

	Lineal foot.
Bluestone curb.....	24,244.96
Granite curb.....	5,154.46
Old curb.....	23,309.00
Total.....	52,708.42

or about 5 miles of street.

The curb supplied at the beginning of the last fiscal year was quite defective and the greater part had to be redressed by the contractor before it was accepted. It is absurd to improve a street with handsome and costly roadway pavements and sidewalks and ruin the whole effect by using rough and improperly dressed curb. Careful inspection, together with more closely drawn specifications, has resulted in an increase in price, the bluestone costing 78½ cents per foot this year against 49 cents last year, and the granite 95 cents against 73½ cents last year. These prices are reasonable considering the quality of the curb required.

Two experiments in the way of curb are being made this summer. One is a combination curb and gutter of concrete with a granolithic facing, and an interior recess for underground wires; the other a granite curb cut 8 inches square and laid in a concrete bed. A serious objection to the ordinary 5 by 20 or 6 by 20 curb is that, being placed upright, it has a tendency to settle unequally, either downwards or to or from the roadway. With both the granolithic and special granite curbs this fault is obviated by laying the curb in a concrete cradle, which virtually broadens the base to such an extent as to prevent any settling from ordinary causes.

The present prices of curb are shown in the following table:

Cost of various kinds of curb.

Class.	Cost of material per foot.	Cost of labor per foot.	Total cost per foot.
Straight bluestone, 5 by 20.....	\$0.78½	\$0.18	\$0.96½
Straight granite, 6 by 20.....	.95	.18	1.13
Special granite, 8 by 8.....	.74	.40	1.14
Combination curb and gutter, straight.....			1.05*
Combination curb and circular.....			1.56*
Circular bluestone, 5 by 20.....	1.05	.18	1.23
Circular granite, 6 by 20.....	1.40	.18	1.58
Circular special granite, 8 by 8.....	1.48	.40	1.88

* Allowing for gutter portion, the cost of pavement displaced at \$2 per square yard.

It will be noticed that both the special granite and combination curb are cheaper than the standard granite 6 by 20. The combination curb is made with an interior electrical conduit large enough to hold four

cables, carrying about 120 telephone wires each, and the size of the conduit can be increased within limits. If this curb proves durable, it will undoubtedly replace every other form of curb. It is by far the finest in appearance as well as the most useful.

The combination curb is being laid on C street southwest between First and Third streets, on Massachusetts avenue northwest between North Capitol street and New Jersey avenue, on Dunbarton avenue between Twenty-ninth and Thirtieth streets, on Twelfth street between Vermont and Rhode Island avenues, and on Seventeenth and Eighteenth streets between P and Q streets northwest.

The special granite curb is being laid on F and G streets northwest between North Capitol street and New Jersey avenue.

CURRENT REPAIRS TO STREETS, AVENUES, AND ALLEYS.

Appropriation \$25,000.

For the details of the expenditure of this appropriation I would refer to the report of the superintendent of streets.

Cobble and rubble pavements on streets, avenues, and alleys have been repaired, stone and asphalt-block roadway pavements repaired, rubble and cobble pavements laid on unpaved streets where the roadway was in bad condition, sidewalks laid at street corners and roadway pavements laid at alley entrances, entrances to new alleys constructed and changed in several instances when found to be improperly placed, macadam and graveled roadways repaired, etc. The demands upon this appropriation are so great that it is impossible to do more than a small fraction of the work really needed. The appropriation for street improvements is limited to the streets specified in the schedule. On all other streets, with the exception of concreted streets, the necessary repairs, if not asked under the permit system, must be paid for out of this appropriation. It is impossible with the funds available to give adequate attention to the outlying streets within the city limits, and many of these so-called streets are in far worse condition than the county roads.

The appropriation for current repairs to streets, avenues, and alleys in 1880 was \$75,500; in 1881, \$85,000; in 1882, \$25,000; in 1883, \$30,000. Since 1883 the annual appropriation has been \$25,000. For the last four years it has averaged \$25,000. For the preceding four years it averaged \$53,875, or more than twice as much. In the meantime the city has grown apace, the population has increased from 147,293 in 1880, to 210,000 in 1887, and the expenses have increased accordingly. If 75,500 was needed in 1880, \$25,000 will hardly suffice in 1887. For the present year (1887-'88), the appropriation has been increased to \$30,000. It could with great advantage be increased to \$75,000 in 1888-'89 if the District revenues will permit.

PERMIT WORK.

Appropriation \$60,000.

The amount and classification of work done under this appropriation is specified in the report of the superintendent of streets, and will be found in detail in the tabular statement appended. The character and economy of the work will, I think, be vouched for by each individual property owner named in said table.

All work is done in accordance with rigid specifications, and a wholesome rivalry exists between the foremen as to which can do the work the cheapest. As the property owner pays the cost of labor, this is a

most excellent condition of affairs for the property owners. Much credit is due to the superintendent of streets and his foremen for the manner in which this work is executed.

There is no legal definition of the term "permit work." In the absence of any authoritative decision this appropriation has been held to be applicable to any public improvement requested by a property owner.

By the terms of the act this appropriation can be used for the improvement and repairs of alleys and sidewalks, the cost of labor to be assessed against the abutting property owners, when, in the judgment of the Commissioners, such course is necessary for the public safety, health, or comfort.

Under the authority thus granted the following work has been executed during the year 1886-'87 :

Curbstone set	linear feet..	1,208
Flagging laid	do.....	1,214
Brick sidewalk laid	square yards..	1,118
Cobble pavement laid	do.....	404
Asphalt block pavement laid	do.....	1,927
Asphalt tile pavement laid	do.....	69

The appropriation for 1887-'88, amounting to \$90,000 became available March 4. At the present time, September 24, there remains an unpledged balance of only \$10,000, and at least \$50,000 more could have been expended had not the Commissioners felt compelled to refuse many requests involving unusually large expenditures.

I would recommend that the estimate for 1888-'89 be increased to \$110,000.

SWEEPING, CLEANING, AND SPRINKLING STREETS, AVENUES, AND ALLEYS.

Appropriation, \$58,000.

The following is a general statement of the expenditure of this appropriation:

Sweeping streets.....	\$33,969.33
Inspection	2,114.00
Cleaning alleys	9,511.59
Inspection	1,678.00
Cleaning unpaved streets.....	8,959.53
Purchase of tricycles for street inspectors.....	250.00
Two watering-carts, at \$100 each	200.00
One watering-cart.....	210.00
Sprinkling streets.....	670.77
Repairs to tricycles, blacksmithing, tools, etc	429.78
Balance.....	7.00
Total	58,000.00

I. S. Filbert had the contract for street sweeping, at 25½ cents per 1,000 square yards. Many complaints were made during the year of the condition of the streets, and not always without cause, as is shown by the following table of monthly deductions for imperfectly executed work:

Date.	Amount deducted.	Date.	Amount deducted.
1886.		1887.	
August.....	\$112.72	February.....	\$171.55
September.....	958.85	March.....	27.43
October.....	265.84	April.....	19.39
November.....	34.86	May.....	30.52
December.....	.36	June.....	41.18
	1,372.63		290.07

The contractor did \$1,662.70 worth of work, for which he received no payment because the work was not executed in accordance with the contract specifications.

This suffices to show that proper vigilance was observed and every effort made to insure a faithful observance of the contract.

There is a popular misapprehension concerning this class of District work. Many people honestly believe that it is the contractor's duty to keep the streets clean, and that it is the Commissioner's duty to see that he does it. This broad statement of the case is entirely erroneous. Congress makes an appropriation of which a certain amount is available for sweeping streets. A contract is made for sweeping, at so much per thousand square yards. It is a simple arithmetical problem to determine how many thousand square yards can be swept for the amount appropriated. A few of the most important streets are swept nightly, others are swept three times a week, some twice a week, the great majority once a week, and about half this number once in two weeks. The schedule is prepared by the Commissioners, based on the three factors, contract price, appropriation, and relative importance of the streets. The contractor follows this schedule and sweeps according to his contract specifications under constant inspection. If he sweeps improperly he is not paid. If he sweeps properly his duty is done, and neither he nor the Commissioners can properly be held responsible if this street becomes dusty and even dirty before his next visit, one or mayhap two weeks hence. Congress alone can increase the frequency of the sweepings by increasing the appropriation available therefor.

The present contract is with F. M. Draney, at 35 cents per 1,000 square yards, and runs for five years contingent upon annual appropriations by Congress. A schedule prepared substantially in accordance with the recommendations contained in my last annual report would require 16,000,000 square yards to be swept monthly. This would cost \$5,600 per month, or \$61,600 for eleven months, omitting one entire month to offset the decreased sweeping in the winter. Add \$3,500 for the new pavements laid this year and the probable cost of street sweeping in 1888-'89 is found to be \$65,100.

W. E. Hodge had the contract for alley cleaning, at 32 cents per 1,000 square yards. Alleys are cleaned once a week. At least \$12,000 should be allowed for this work in 1888-'89.

For cleaning and sprinkling unpaved streets, removing snow and ice, etc., \$8,000 should be allotted in 1888-'89.

Estimate for 1888-'89.

Sweeping, cleaning, and sprinkling streets, avenues, and alleys:	
Sweeping streets	\$65,100
Cleaning alleys	12,000
Cleaning unpaved streets, etc	8,000
Total	85,100

OPENING AND EXTENDING SUBURBAN STREETS.

Appropriation, \$30,000.

The following is a detailed statement of the expenditure of this appropriation:

Work or material.	Expenditure.
Contract for Klinge Bridge abutments	\$3, 078. 50
Contract for bridge on Anacostia road	1, 367. 38
Contract for bridge at Klinge Ford	3, 075. 00
Contract for extension of Massachusetts avenue	11, 595. 82
Contract for grading Euclid Place	1, 056. 16
Contract for extension of Eighteenth street (not completed)	3, 948. 34
Pay of inspectors and of draughtsman preparing map to accompany report of the Commissioners District of Columbia in response to resolution of the United States Senate calling for report on the extension of streets and avenues on the northern boundary of the city of Washington	2, 555. 17
Instruments	377. 85
Transportation for assistant engineer, acting as general inspector, and blacksmithing ..	200. 15
United States marshal, fee	22. 00
Surveyor, fee	50. 00
Advertising for proposals and printing specifications	94. 28
Miscellaneous	2. 35
	27, 423. 00
Balance (available towards completion of contract for extension of Eighteenth street) ..	2, 567. 00
Total	30, 000. 00

The bridge at Klinge Ford opens up the Klinge road, which connects with the new Nourse road on the west side of Rock Creek. When funds are available for the proper grading and widening of the Klinge road east of the creek this road will have the easiest gradients of any connecting the city with the Tennallytown road.

The Anacostia road was frequently impassable during the winter season because of a ford near the Bennings road. The bridge over this stream opens this road to winter traffic.

REPAIRS TO CONCRETE PAVEMENTS.

Appropriation, \$65,000.

The following table contains a detailed statement of the expenditure of this appropriation:

Resurfacing.

Street.	From—	To—	Square yards.	Cost.	Total.
New York avenue	Twelfth	Thirteenth	1, 434. 09	\$1. 47	\$2, 685. 18
Thirteenth	C	Pennsylvania avenue.	2, 979. 94	1. 47	4, 524. 20
Ninth (east side)	M	N	902. 65	1. 47	1, 433. 81
P	Approaches to bridge.		1, 310. 92	1. 47	2, 030. 23
Pennsylvania avenue	Eighteenth	Twentieth	3, 909. 18	1. 05	4, 355. 12
Fifth	G	I	2, 440. 44	1. 47	3, 769. 70
Connecticut avenue	M	Dupont Circle	4, 806. 95	1. 47	8, 546. 43
Fifteenth	Q	S	4, 220. 42	1. 05	4, 874. 23
New York avenue (north side).	Twelfth	Thirteenth	1, 749. 02	1. 05	2, 026. 75
L	Seventeenth	East 173' 2"	1, 084. 98	1. 05	1, 180. 03
Total			24, 838. 59		35, 484. 68
Various minor repairs			22, 733. 72	{ 1. 05 } { 1. 47 }	27, 844. 15
Inspection					\$2, 004. 00
Total					65, 332. 83
Deduct value of 7,636 paving blocks					345. 57
Difference					64, 987. 26
Balance on hand					12. 74
Grand total					65, 000. 00

542 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Including last year's work, the table showing the yearly increase in area of concrete pavements under maintenance is as follows:

Yearly increase in area of concreted streets maintained by the District, with estimate of future increase and cost.

Year.	Total square yards to be maintained by District July 1, of first-named year.	Annual appropriation for repairs to concrete pavements.	Appropriation per square yard of pavement to be maintained.	Square yards on which guaranty expires.	Square yards resurfaced under guaranty.	Net increase in square yards of pavements not under guaranty.
	1.	2.	3.	4.	5.	6.
1883-'84	773,843	\$50,000	\$0.065	130,741	19,477	111,314
1884-'85	885,157	50,000	.056	112,545	15,991	96,554
1885-'86	981,711	50,000	.051	105,871	18,254	87,617
1886-'87	1,069,328	65,000	.061	112,025	21,839	87,186
1887-'88	1,156,514	80,000	.069	112,550	30,000	82,550
1888-'89	1,239,064	100,000	.089	137,538	40,000	97,538
1889-'90	1,336,632	100,000	.075	68,816	35,000	33,816
1890-'91	1,370,418	100,000	.073	58,159	30,000	28,159
1891-'92	1,398,577	110,000	.079	75,601	38,000	37,601

All data for 1888-'89 and subsequent years are based on estimated appropriations with the exception of column 4, which is exact. Asphalt-block pavements are not included in this table. The contract for "repairs to concrete pavements" provides only for sheet asphalt and coal-tar distillate.

Some of the old coal-tar pavements are now in a very bad condition, and for the next few years extensive resurfacing will be necessary. The appropriation for 1888-'89 should not be less than \$100,000.

In many respects this appropriation is even of more importance than that for street improvements. The pavements already laid should be kept in proper condition even if the area of new pavements is limited in consequence.

STREET RAILWAYS.

The following table shows the cost of street pavements laid for and by the various railway companies during the fiscal year 1886-'87:

Company.	Square yards.	Cost.
Washington and Georgetown	\$807.87	\$1,233.18
Metropolitan	1,811.70	2,005.34
Columbia	63.24	8.60
Capitol, North O and South Washington	1,928.60	4,951.44
Total	4,611.41	9,178.56

My report of September 7 contains information of more or less general interest on this subject:

The best form of rail is that which fulfills the following conditions:

1. It should reduce the necessary tractive power to a minimum, at the same time confining the care to the tracks
2. It should be durable.
3. It should offer little or no obstruction to the passage of ordinary vehicles.
4. It should be of such shape as not to accumulate or hold street refuse and filth, or to interfere in any way with the proper policing of the streets.
5. It should be so constructed as to be easily renewed or repaired without cutting out or disturbing the street pavement.

The first condition requires that the rail should have a solid bearing throughout, to which support it should be firmly attached. This gives true grades and straight lines, which is not the case with ordinary rails. There is not a rail in this city which

has been in use one or more years since laying or relaying which has not one or more loose spikes and which has not a vertical motion or "play" under the weight of a passing car. Rails bolted to wooden stringers will not and cannot remain firm, because of the nature of the material and the conditions to which it is subjected.

The second condition requires that the rails shall be steel, proportioned in weight to the traffic which they bear.

The third condition requires that the rail shall be flush with the surface of the street pavement. This condition cannot be obtained absolutely. The grooved rail is superior to all others in this respect. The side-bearing rail, such as is used on the Columbia Road, is perhaps the best for ordinary vehicles traveling on the tracks where the width of tires and space between wheels correspond to the road gauge; but railway tracks are used but little as tramways in this city, the smooth pavements being preferred, and this special consideration should be given but little weight.

The fourth condition is fulfilled by the grooved or side-bearing rail better than by the other forms.

The fifth condition requires that all parts of the track below the surface shall be permanent, not subject to decay or injury, and that the rails shall be fastened to the stringers or supports by screws or other devices which are accessible from the surface.

The cost of a track consists of two distinct elements, the cost of construction and the cost of maintenance.

The first cost of a double track, similar to that of the Metropolitan Road in this city is estimated at about \$11,000 per mile, not including pavement outside of the rails or between the two tracks, as follows:

Rails, 38 pounds per yard, 120 tons, at \$42	\$5,040.00
Wooden stringers, 5 by 6, 52,800 feet B. M., at \$21 per M	1,108.80
Wooden ties, 4 by 6, 22,240 feet B. M., at \$21 per M	467.04
Nails, 10 kegs	30.00
Spikes, 30 kegs	67.50
Cobble-stones, 5,524.6 yards, at 15 cents	828.69
Laying cobble-stone pavement, 5,524.6 yards, at 10 cents	552.46
Gravel	167.50
Excavating and building track	2,640.00
	10,901.99

The cost of maintenance may be approximately ascertained as follows: The average life of the timber is about eight years. The track must be renewed every eight years, which involves the purchase of stringers and ties, with the necessary nails and spikes, the removal and relaying of the cobble-stone pavement, and the rebuilding of the track.

Renewals while the road is open to traffic cost one-third more than new constructions.

On this basis each renewal costs—

Stringers	\$1,108.80
Ties	467.04
Nails and spikes (about)	63.75
Rebuilding track	3,520.00
Taking up and relaying cobble (included below)	
Total	
	5,159.59

$$\text{or } \frac{5,159.59}{8} = \$644.95 \text{ per year.}$$

The rails will last twenty-one years. Each renewal costs \$5,040.

$$\text{or } \frac{5,040}{21} = \$240 \text{ per year.}$$

The cobble pavement will require relaying about every two years, or 5,524.6 square yards, at 12 cents per yard = \$662.95. $\frac{662.95}{2} = \$331.47$ per year.

Annual cost of maintenance:

Renewal of track	\$644.95
Renewal of rails	240.00
Renewal of pavement	331.47
	1,216.42

544 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

The yearly expenditures of the Washington and Georgetown Railroad Company for repairs to tracks, including the pavements between, for the past seven years have been as follows:

	\$12,382.89
1880	5,784.72
1881	5,128.86
1882	15,348.11
1883	12,048.23
1884	1,410.76
1885	12,333.06
1886	
Total	64,436.63
Mean	9,205.23

This company has about 10 miles of double track. The average cost of maintenance per mile for the space between the outer rails for the past seven years has therefore been \$920.52, and for the 2-foot strips adjacent to the outer rails \$640.25. The total expenditure by the company has been, therefore, \$1,560.77 per mile per annum. Granite blocks are used instead of cobble-stones in the inter-rail spaces on Pennsylvania avenue between First and Fifteenth streets. The first cost of this pavement is much greater than cobble, but the cost of maintenance is less. The superintendent of the Metropolitan Railway estimates the annual cost of maintenance per mile of double track as \$1,299.85.

As these figures can only be regarded as approximations it is within reasonable limits to put the cost of maintenance in this city at \$1,400 per mile of double track per year.

There are many forms of rails which fulfill in a greater or less degree the conditions before stated. On the drawing submitted herewith are shown the cross sections of the various forms of rails now in use in this city, together with those in use in Philadelphia, New York, and certain European cities.

The "Boston" rail is now being laid by the West End Railway Company in Brookline, Mass., and is given as a specimen of the improved modern rail rather than as the type of the Boston rails. The rail rests on a continuous bed of concrete 8 by 18 inches in dimensions, giving a solid bearing. The rails are connected by iron tie-rods at intervals of 7 feet 6 inches, and bolted to intermediate wooden ties. Eight miles of this track are now under contract. The rails are 30 feet long, and weigh from 90 to 100 pounds per yard. This is an excellent form of rail, the only objection being that in renewals it will be necessary to tear up the street pavement.

The grooved rails laid by the Metropolitan Railway Company at the intersection of Pennsylvania avenue and Ninth streets are very similar to the Boston, or, speaking more correctly, the Liverpool, rail.

The Broca rail, used in London and Paris, is also of the same general form.

The Kinkaid, Barker, and Dunscombe English systems have this advantage: That the stringers are of cast-iron, permanently imbedded in concrete, the steel rails being attached thereto by bolts and nuts or keys, as shown in the drawings. In the Kinkaid system the longitudinal support is not continuous, the rails resting on the chairs at intervals of 3 feet. Each chair is 6 inches high, 9½ inches wide, and 35 inches long at the base. Renewals of rails necessitate the removal of one or more paving blocks opposite each key. The same is true of the Barker system.

The Barker and Dunscombe systems have continuous stringers. In the latter the space around the nut is filled with concrete, which, when it hardens, holds the latter firmly in place. The rail can then be tightened, loosened, or entirely removed by the use of an ordinary screw-driver on the head of the bolt. The rail proposed by Captain Greene is similar in principle to the foregoing, consisting of a cast-iron stringer imbedded in concrete and steel rail. The rail can be renewed without disturbing the pavement. The stringer weighs 130 pounds per yard and the rail 40 pounds.

In the Kinkaid system the ordinary chairs weigh 50 pounds each and the joint chairs 60 pounds. The rail weighs 50 pounds to the yard.

The Manchester rail (Barker system) weighs 40 pounds to the yard. The stringers weigh 136 pounds per yard. The first cost per mile of double track (including paving, at 80 cents per square yard) is given by Mr. Barabant, chief engineer of public ways, Paris, as \$39,368.

The cost of the Dunscombe rail per mile of single track is given by the same authority as \$31,000. This is an expensive track, but, as M. Barabant remarks—

"If the first cost is very heavy, the maintenance is extremely easy and economical. We saw a rail taken up and relaid in a few minutes with great precision. In our judgment the principle applied at Liverpool is the true one; neglect nothing in construction, so as to reduce the cost of maintenance to nothing, and save the ordinary

vehicles from the intolerable nuisance caused in much-traveled streets by the presence of rails in bad order."

With the exception of the Metropolitan rail at the intersection of Ninth street and Pennsylvania avenue the rail recently laid by the Columbia Railway is the best in the city. It is open to the objections that it involves the use of wooden ties, has not a continuous longitudinal support, being side-bearing in form, the inter-rail spaces will always hold more or less dirt and street filth, and it breaks the uniformity of street surface.

As a comparison of the cost of maintenance of the wooden and cast-iron stringer systems, the following is given as the estimated annual cost of maintenance of 1 mile of double track of the Manchester rail (Barker system):

Rail, 126 tons steel, at \$42 = \$5,292. Life of rail = 21 years; $\frac{5292}{21} = \$252$ = annual cost for this item. Assuming the inter-rail pavement to be the same as before, and allowing 5 cents per square yard for maintenance of concrete pavements adjacent to outer rails, we have—

Annual cost of maintenance:

Renewal of rails.....	\$252. 00
Renewal of pavement.....	331. 47
Maintenance of 2-foot strips.....	117. 35
Total	700. 82

The difference in first cost is, per mile of double track:

Washington system	\$10, 901. 99
Manchester system.....	39, 368. 00
Difference	28, 466. 01

The difference in cost of maintenance is:

Washington system	1, 400. 00
Manchester system.....	700. 82
Difference	699. 18

Omitting all questions of interest on investment, tracks of these two systems which are forty-one years old will have required the same outlay, and after that period the Manchester system will be far cheaper.

The paving, repaving, and repairing the 2-foot spaces adjacent to the outer rails is an important item in the cost of maintenance. The Washington and Georgetown Company, with 10 miles of track, have expended \$44,817.63 in repairs to pavements within the 2-foot spaces outside of the outer rails in the past seven years, as follows:

1880	\$11, 935. 09
1881	1, 320. 92
1882	6, 753. 97
1883	14, 371. 34
1884	7, 031. 55
1885	2, 673. 23
1886	731. 53
Total	44, 817. 63
Average	6, 402. 52

Average per mile of track, \$640.25, or 27 cents per square yard of pavement.

With the T-rail and wooden stringers, such repairs are needed much more frequently than would be the case with center-grooved rails giving a smooth roadway. The T-rail should be abolished. Whenever it becomes necessary to remove such rails for any cause whatever they should be replaced by improved forms. The groove rail is unquestionably the best and is admirably adapted for the streets of Washington, as is shown by the crossing recently laid by the Metropolitan Railway Company at Pennsylvania avenue and Ninth street. Cast-iron stringers are far preferable to the use of wood, but the question of expense may restrict the choice to some such form as the Boston rail. The new Columbia rail is a great improvement on the old forms, but it is not the equal of the Boston rail. So far as the rails alone are concerned, there is no practical difficulty in the use of the same track by cars drawn by horses and others moved by cable power.

So far as the interests of the public are concerned, the question of paving between tracks and rails is of equal if not greater importance than the form of the rail.

The act providing a permanent form of government for the District of Columbia, approved June 11, 1878, provides as follows:

"The said railway companies having conformed to the grades established by the Commissioners, may use such cobble-stones or Belgian blocks for paving their tracks or the space between their tracks as the Commissioners may direct.

"When street railways cross any street or avenue the pavement between the tracks of such railway shall conform to the pavement used upon such street or avenue, and the companies owning these intersecting railroads shall pay for such pavements in the same manner and proportion as required by other railway companies under the provisions of this section."

Up to the past year the railway companies were permitted to use cobble-stones between the tracks and rails. On November 12, 1886, the Commissioners issued the following order:

"Ordered, That in conformity with the provisions of section 5 of the act of June 11, 1878, providing for a permanent form of government for the District of Columbia, the space between the tracks of street railways, where there is more than one track, shall be paved by the companies with block pavement. This order is to take effect in all cases where it is needful to repair or relay such inter-track spaces, be the same great or small."

This disposes of the cobble-stones between the tracks; but while Belgian blocks were considered to make a good pavement in 1878, they would not be the best or the cheapest material for this purpose at the present time. The Belgian-block pavement would cost about \$2.50 per square yard (the last contract price was \$3.30 per square yard for paving Seventh street between B street south and B street north in 1875-'76). Granite block, to all intents and purposes an improved form of Belgian-block pavement, costs \$2.48 per square yard. Asphalt block costs \$2 per square yard. The latter is therefore cheaper, as it is better in some respects than either Belgian or granite blocks. The prices given are contract rates and would be somewhat greater for paving between the tracks.

"Where wooden stringers and ties are used, requiring renewals and repairs at more or less frequent intervals, and rendering impossible the solidity of track necessary for the proper maintenance of a sheet pavement, asphalt blocks, on the whole, make the best pavement at present for the inter-track spaces. They are smooth, clean, and nearly noiseless, and sufficiently durable (in that location), and can be easily removed and relaid when repairs to the track are needed.

"The cobble-stone pavements in the inter-rail spaces are cheap, and have been supposed to afford better footing for the horses than the other pavements, although the claim is a doubtful one. In every other respect they are nuisances and should be replaced. The block pavement in the inter-rail spaces of the Washington and Georgetown Railroad on Pennsylvania avenue seems to answer its purpose, and the other railways should follow this example. The first cost is the great obstacle. The cost of maintenance is less than with cobble.

"Sheet pavements are perhaps objectionable in interrail spaces, as they may not afford secure footing for the horses in wet weather and during the winter season. With the present form of rails, wood stringers, etc., they are not satisfactory either between the tracks or the rails, as the play of the rail and the stringers cause too rapid wearing and general deterioration of the pavement. If improved forms of rails be adopted, and especially if cast-iron stringers, firmly embedded in concrete, be used, sheet pavements (asphalt or distillate) can be laid with entire security between the tracks and rails at street intersections, as now required by law. The many favorable comments on the Ninth-street crossing of Pennsylvania avenue is evidence of the favor with which the public would receive such an improvement. Under the conditions assumed the uncertain objection of poor footing for the horses could be neglected, as the police regulations require now that no vehicle shall stop upon a street crossing or upon the carriage-way of a street intersection, and this would give the horse a block footing in starting the car.

"It is respectfully submitted that it would be advantageous to recommend to Congress the passage of suitable laws to carry out these suggested improvements. As a beginning, the companies should be compelled to substitute grooved rails for the present form at street crossings, and to pave these crossings in accordance with the law above quoted. This could be done under suitable regulations, allowing the companies a reasonable time to complete the work, and would not involve too great an expense. It would remove one of the most serious causes for complaint against the present system."

TELEGRAPH LINES.

During the year poles have been removed and erected in streets and alleys as follows :

Company.	Streets.		Alleys.		Total.		Total increase.
	Removed.	Erected.	Removed.	Erected.	Removed.	Erected.	
Chesapeake and Potomac Telephone Company	112	92	13	28	125	120	- 5
Fire-alarm and District line ..	35	10	0	40	35	50	+15
Western Union Telegraph Company	172	91	0	0	172	91	-81
Postal Telegraph Company and united lines	0	0	0	0	0	0	
Baltimore and Ohio Telegraph Company	40	45	11	11	51	56	+ 5
United States Electric Light Company	12	11	4	4	16	15	- 1
United States Government lines	14	13	0	0	14	13	- 1

The general policy has been to restrict permits to replacement of poles on existing lines, where such poles were too short in consequence of the growth of the trees, or had become dangerous through age.

Poles have been erected in new localities where by the use of taller and stronger poles the total number of poles on the line could be reduced. Permits have also been issued to different companies for the erection of poles when the joint use by the fire-alarm and District wires was guaranteed, but only in cases where the necessity of such poles was certified by the general superintendent telegraph and telephone service, District of Columbia.

The total number of poles within the city limits on July 1, 1887, was as follows :

Company.	No. of Poles.	Company.	No. of Poles.
Chesapeake and Potomac Telephone Company	898	United States Electric Light Company ..	182
Fire-alarm and District line	401	United States Government lines	77
Western Union Telegraph Company	860	Signal Service, U. S. Army	10
American Rapid Company	170	Bankers and Merchants	
Postal Telegraph Company		Grand total	2,799
Baltimore and Ohio Telegraph Company ..	192		

Underground wires were laid by the District as follows : 19,806 linear feet of Waring anti-induction cable. Most of the cable was 6 wire, costing 27 cents per foot. The total cost of labor for trenching, excavation, relaying pavements, etc., was \$2,634.14, or 13½ cents per foot. The conduit consisted of a pine box filled with pitch, the total cost of which materials did not exceed 4½ cents per foot. The total cost of the cable as laid was, therefore, about 45 cents per foot. The cable contains 83,641 feet of wire.

The total lengths of underground cable in operation in this city on July 1, 1887, was as follows:

Company.	Miles of underground conduit.	Miles of underground wires.
Chesapeake and Potomac Telephone Company.....	5½	1,301.7
Fire alarm and District line	4.7	25.5
Western Union Telegraph Company.....	0.5	4.0
Postal Telegraph Company and united lines.....	0.2	0.2
Baltimore and Ohio Telegraph Company	*0.5	2.0
United States Electric Light Company	1½	†10.2
United States Government lines	5.2	31.2

* Not quite.

† 5.7 miles worthless and the balance in bad condition.

ELECTRIC LIGHTING.

The use of uninsulated wires for incandescent arc light systems became a subject of investigation on complaint of the chief of the fire department against the stringing of such wires on F street northwest. To ascertain the common practice in this respect in this country I addressed letters to the officials of various cities, asking the specific question: "Are uninsulated wires used for air-line incandescent-light circuits by electric lighting companies in your city?"

The following is a synopsis of the replies received:

Lieut. John Millis, Corps of Engineers, U. S. Army, Staten Island, New York Harbor (on special duty under the Light-House Board investigating subject of the use of electric light for light-houses), knows of no instance where bare wires are allowed for *any kind* of electric lighting. (The regulations of the New York Board of Fire Underwriters do not permit the use of uninsulated wires.)

William Brophy, inspector New England Insurance Exchange, Boston, Mass.:

The use of uninsulated wires for any form of electric lighting is not permitted or practiced in any part of New England.

William McDevitt, inspector of insurance patrol, Philadelphia, Pa.:

Uninsulated incandescent wires may be harmless in a village or small town, but in a large city, with numerous wires running into buildings, the danger of a cross with telegraph or telephone wires and its results exist wherever naked light wires are allowed. We do not allow it here.

J. G. Brittain, secretary Association of Fire Underwriters, Baltimore, Md.:

Have adopted New York regulations. Uninsulated wires are *not* used.

James A. Waterworth, president Board of Fire Underwriters, Saint Louis, Mo., states that their rules refer only to the satisfactory insulation of the dynamo and inside wires. Uninsulated wires are not used for incandescent lights.

N. K. Funningham, secretary Fire Underwriters' Association, Chicago, Ill.:

All electric light wires are required to be underground in conduits provided for that purpose, except where they run along the face of a building or cross an open court, and in every such instance insulated wires must be used.

George Mather, secretary Board of Fire Underwriters, New Orleans, La.:

Some ordinary straight incandescent lights, voltage 200 or less, are permitted to use uninsulated wires of proper capacity for all time.

H. D. Luelden, city engineer, Detroit, Mich.: Has no air-line circuits for incandescent lights, the wires being under-ground.

Charles E. Marshall, secretary Underwriters' Association, Cincinnati, Ohio:

As a rule air-line wires are not insulated when used for incandescent circuits.

G. H. Renzenberg, city engineer, Milwaukee, Wis.

All wires must be insulated.

M. E. Rawson, assistant engineer, Cleveland, Ohio:

Specifications require "All wires to be properly insulated or covered."

George W. White, secretary Association of Fire Underwriters, Buffalo, N. Y., incloses copy of rules.

RULE V. All conductors must be thoroughly well insulated.

L. W. Rundlett, city engineer, Saint Paul, Minn.:

Uninsulated wires are used for incandescent circuits.

The weight of practice is strongly in favor of insulation.

The normal voltage for incandescent circuits is about 110 volts. This is not a dangerous current, though the shock to the human frame is unpleasant. The objections to uninsulated wires may be briefly stated as follows:

1. The moral effect. Firemen may be able to distinguish an electric-light wire from a telegraph wire, but they are in ignorance as to whether this particular wire is carrying a current at a potential of 2,000 volts or only 110 volts. They can not tell whether to touch the wire means death or only an unpleasant shock.

2. One hundred and ten volt dynamo currents may cause accidents. An unexpected shock may cause a fireman to fall from the ladder or the building with resulting serious injuries. In such case it would be little consolation to him to know that the current is harmless.

3. A dynamo current is more dangerous than a voltaic current of greater potential. To short-circuit a telegraph current from a voltaic battery produces little result, but to short-circuit an incandescent light current, the source of which is a powerful dynamo machine, is a different matter. The dangers resulting from light wires crossing with telegraph or telephone wires result from the foregoing fact.

4. Wires may become detached from insulators during high winds, storms, or from other accidental causes. Bare wires then become dangerous, whereas insulated wires are comparatively harmless.

In our interview with the vice-president of the Edison Light Company, in New York City, he stated unequivocally that while he regarded the incandescent current as practically harmless he would certainly recommend insulation in all cases.

Insulated wires cost about 25 per cent. more than the bare wires.

The electric lighting of Seventh street under the appropriation made, therefor, in the last appropriation act went into effect on the night of August 20, 1887. By your orders I inspected the street on that night and submitted the following report:

Seventh street, from Pennsylvania avenue to P street N. W., is lighted by thirty-one lamps suspended from brackets attached to iron poles at a height of about 20 feet above the street. The poles are spaced at an average distance of 176 feet. The arc lamps are of 2,000 candle power each; they burned with regularity and steadiness while under my observation. The lower part of the street (between the avenue and F street) is so well lighted in the early evening that it is impossible to separate the effect of the new lamps from the general illumination. Above Mount Vernon Square their effectiveness was apparent.

I noticed two faults in the placing of the lamps which can and should be remedied. The brackets are attached to the poles at right angles to the curb. This is correct for the intermediate poles, but at the street corners the result is that the dense black shadow of the pole stretches up the side street covering the entire width of the side walk and rendering the lamp practically useless for the cross street. The bracket should be placed at such an angle as to throw the pole shadow against the adjacent building at the corner. This will effect the illumination of both streets. The carbon holder or lamp proper also intercepts light to a serious extent. The side rods throw long black shadows up and down the street, which, starting at the curb below, soon spread entirely across the sidewalk. The lamp should be hung so that one of the rods is in line with the pole; the other rod will then throw its shadow across the street where it is of the least consequence.

The denseness of electric light shadows makes these matters of serious importance, where it is desirable to obtain the maximum illuminating power for the money expended.

The changes suggested in this report have been made by the United States Electric Lighting Company, and the objections thus obviated.

PARKING COMMISSION.

Appropriation \$18,000.

The report of the Parking Commission contains much valuable and interesting information and several recommendations deserving special consideration.

1. The necessity for the destruction of valuable trees in order to erect awnings would be obviated if the rule was adopted that the supporting rods for awnings be set on a line about 2 feet inside the curbstones. This would not interfere with travel, being about the inside line of the tree boxes.

Lined with shade trees, as most of our streets are, the space near the curb for a width of about 3 feet is practically useless as part of the sidewalk for continuous travel. The placing of supporting rods for awnings on a line with the inner side of the tree boxes would not interfere with travel particularly if care were taken to put rods opposite trees as far as practicable. This method is certainly preferable to the sacrifice of the trees.

2. The Commission consider it impracticable to retain funds for the removal of caterpillar webs towards the close of the fiscal year (beginning of summer), because of the uncertainty of the amount of such work required. They suggest that "this uncertainty might be met by a special fund appropriated for the purpose to be used as required." A special appropriation of \$3,000 for the removal of caterpillar webs, to be made available on the 1st of May, would certainly go far toward ridding the city of this pest.

The following is a summary of the year's work as contrasted with that of the previous year:

	1885-'86.	1886-'87.
Trees planted	2, 794	2, 146
Old trees removed	337	1, 435
Total number of trees on the streets	67, 028	67, 739
Number of varieties	26	26

I would recommend that the appropriation for the Parking Commission be increased to \$22,000 in addition to the special appropriation of \$3,000 for removing caterpillar webs or \$25,000 in all.

CURRENT REPAIRS TO COUNTY ROADS AND SUBURBAN STREETS.

Appropriation (1886-'87), \$40,000.

The principal items of expenditure of this appropriation were as follows:

Constructing Tennallytown road, from termination of work 1885-'86 to the foot of the hill beyond Tennallytown (contract No. 733, not completed)	\$9,207.33
Constructing Bladensburgh road (contract No. 755)	3,886.42
Laying Belgian block and rubble pavement on Brightwood avenue (Seventh street road) under direction of the superintendent of streets.	2,781.23
Patrol system:	
Eastern section	503.05
Middle section	607.87
Western section	513.63
Current repairs:	
Eastern section	4,772.38
Middle section	9,537.14
Western section	4,752.16
Inspection	712.00
	37,273.21
Balance on hand September 24 available for completion of contracts on the Tenallytown and Bladensburgh roads.....	2,726.79
Total	40,000.00

Number of miles county roads:	
Eastern section	36.66
Middle section	42.33
Western section	35.33
Total	114.32

Number of miles suburban streets:	
Eastern section	6.14
Middle section	45.80
Western section	4.00
Total.....	55.94

Total miles of county roads and suburban streets, 170.26.

The appropriation, including partial construction, amounted to \$234.93 per mile, or about 4½ cents per annum for every running foot of road. It is manifestly impossible to keep all the roads in good condition and construct new roads with such a small outlay, and the proper expenditure of the appropriation is one of the many perplexing problems which the engineer department has to solve. The amount of work required under this head, and frequently demanded as absolutely necessary, is out of all proportion to the sum appropriated, and it is a constant struggle to meet the wants and necessities of suburban residents. Earth roads can not be expected to remain in good condition during the winter and spring months, and at times will become almost impassable, yet the macadamizing of all the county roads is an immense undertaking requiring years for its completion. For the current year 1887-'88, upon the recommendation of the Commissioners, separate appropriations have been made for "construction" and "maintenance," a division which naturally suggests itself as advantageous however the problem may be viewed.

CONSTRUCTION.

The method of construction heretofore in vogue, and which was followed during the year 1886-'87, consisted in macadamizing the roadway

for a width of 14 feet in the center, finishing the sides with gravel for summer traffic. This arrangement seems to give general satisfaction and is fairly economical. Cobble gutters 3 or 4 feet in width have generally been laid on the most important roads. They define the lines of the road, give a good finish, and prevent the formation of side gullies; but for their legitimate use as side drains they are only required in exceptional cases. The width of the drive-way proper varies from 30 to 40 feet. The metal (broken stone, $2\frac{1}{2}$ inches in size) is laid in two courses to a total depth of 10 inches and finished with a layer of 2 inches of gravel. Each course is thoroughly rolled with a horse roller weighing 5 tons.

On the two roads constructed in 1886-'87 the contract prices were as follows:

Road.	Grading.	Macadamizing.	Gravel.	Cobble gutters.
	<i>Per cubic yard.</i>	<i>Per square yard.</i>	<i>Per square yard.</i>	<i>Per square yard.</i>
Tenallytown.....	\$0.24†	*\$0.47	\$0.17‡	\$0.37
Bladensburgh.....	.35	1.30	.14	.....

* Stone furnished by District; crushed, hauled, spread, and rolled by contractor.

† Metal furnished by District; hauled, spread, and rolled by contractor.

If possible, the longitudinal grades are not allowed to exceed 5 in 100. Of the roads constructed during the past year, the northern slope of the Tenallytown hill is 5.05 in 100, and the Klinge road east of Rock Creek and Eighteenth street extended have grades exceeding this limit.

The Tennallytown road from Georgetown to Pierce's Mill road has been constructed with a 6 inch crown, the roadway being 40 feet in width.

It is of the utmost importance that the appropriation available for constructing roads should be expended in the procurement of the best and most enduring results. Unless excavation is necessary to reduce excessive grades or to remove unsuitable material, the old road-bed is the best obtainable as a basis for macadam pavement. It is better packed than it is possible to roll a new surface; it affords good drainage facilities, and it saves the cost of excavating, which is an important item where, as is usually the case, it has been deemed necessary to grade down sufficiently to bring the new road surface to the same level as the old. In some cases the latter method may be necessary, but in general it will be sufficient to trim the existing surface and fill the ruts. This method was followed on the Bladensburgh road during the past year and on the Bladensburgh and Benning's roads during the present year, resulting in a large saving in the item of grading.

A road constructed with a Telford foundation and macadam surface is probably cheaper and more durable than one constructed of macadam alone.

Clemens Herschel, who is recognized as good authority on this subject, says in his prize essay on "Roads and Road-Making" (1870):

The invention of Macadam consisted in having no large stone at all on the roadway, but having it all pounded into small fragments and spread over the road-bed. This has, without fear of efficient contradiction or shadow of doubt, been proved by trial to be a worthless proceeding, though at one time popular, and even now only too often done either from ignorance or laziness. The separate fragments of stone, having no bond among themselves, are liable to sink into the underlying ground or road-bed, evenly or unevenly as it may chance, more in one place than another, and thus never come to rest or to an even top surface. Between these two extremes of an ancient Chinese solid

rock road and that of Macadam lies the true principle of road-making, which consists in giving every road two component parts—one the foundation, to be solid, unyielding, porous, and of large material; the other, the top surface, to be made of lighter material, and to be made to bind compactly and evenly over the rough foundation.

This is, perhaps, an ultra view of the defects of Macadam's system.

E. P. North says in his "Construction and Maintenance of Roads" (1879):

As regards the foundation, Macadam seems to have the engineers of France and England mostly on his side. In this country it is believed engineers generally prefer a Telford foundation.

Bids were requested for a Telford base for the Bladensburgh road under the current appropriation, but, probably through ignorance of this class of work on the part of the contractors, the prices were considerably in excess of those for the ordinary macadam pavement, and the latter were accepted on the score of economy. The metal for the lower course was, however, increased from 2½ inches to 4 inches in size. On the Benning's road the lowest bid was for Telford base, and this road is now being improved under the following specifications:

TELFORD-MACADAM ROADWAY.

1. Material: The stone for the foundation of the pavement shall be sound, hard, and durable quarry stone, each from 6 to 8 inches in depth, from 3 to 6 inches in width, and from 6 to 14 inches in length, and of a sufficiently uniform size to be acceptable.

2. The road-bed shall be prepared as prescribed for macadam pavement, except that the bed shall be 14 inches below the surface of the finished roadway.

3. The foundation stones shall be laid by hand in the form of a close firm pavement. They shall be set on their broadest edges, lengthwise across the road. All the projections and irregularities of the upper part of the pavement shall then be broken off with a hammer. The spalls or chips together with broken stone or screened gravel shall then be spread on the base in sufficient quantity to fill all irregularities and present an even surface with the required thickness. The base shall then be thoroughly rolled. The stone foundation must be in a compact and satisfactory condition in every respect at the time of the spreading of the broken stone.

4. On this shall be spread a layer of macadam to such a depth as will make a thickness of 5 inches when thoroughly compacted. This layer shall be composed of material of the same size and quality as is prescribed for macadam roadways, and shall be rolled in the same manner and for the same length of time.

On the subject of longitudinal grades Herschel says:

The regulations of different countries having a long experience in road building, such as France, Prussia, Baden, etc., vary somewhat, but the following is the general result:

* * * * *

For first-class or stone roads, the greatest inclination should not exceed 3 to 5 in 100; second-class or county roads, 5 to 7 in 100; third-class or town roads, 7 to 10 in 100.

Concerning transverse slopes or "crown" of roadway the same authority says:

In Baden, one of the small German states, but which is worthy to be taken as a model in matters of road building, and in France, the rise at the center is given as $\frac{1}{10}$ to $\frac{1}{60}$ of the width of the road, according to the nature of the material; that is, inclinations of 1 in 20 and 1 in 30. The rules in Prussia prescribe inclinations of 1 in 24 for roads falling more than 4 in 100; 1 in 18 for roads on a grade of between 2 and 4 in 100; and 1 in 12 for those on a grade less than 2 in 100.

The following table gives the crown for a 40-foot and 33-foot roadway according to these rules :

Roadway.	Crown in inches.				
	German and French rule.		Prussian rule.		
	Greatest, $\frac{1}{20}$.	Least, $\frac{1}{30}$.	Long slope exceeds $\frac{1}{100}$.	Long slope, $\frac{1}{100}$ — $\frac{1}{80}$.	Long slope less than $\frac{1}{100}$.
	Inches.	Inches.	Inches.	Inches.	Inches.
40 feet wide	12	8	10	13 $\frac{1}{2}$	20
33 feet wide	10	6 $\frac{1}{2}$	8 $\frac{1}{4}$	11	16 $\frac{1}{2}$

General Gilmore's rule for transverse slope is "1 in 30 for ordinary well-maintained gravel or broken stone roads;" equivalent to an 8-inch crown for a 40-foot roadway and a 6 $\frac{1}{2}$ inch crown for a 33 foot roadway.

In North's "Construction and Maintenance of Roads," he gives the crown of Sixth avenue, New York City, a macadamized road on a Telford foundation, as 6.6 inches for an 80-foot roadway.

The authorities differ in this respect, and no exact rule seems to meet with general acceptance. The 6-inch crown on the Tenallytown road, where the roadway is 40 feet wide, is certainly a minimum, if not too small. For the Bladensburgh road, with a 33-foot roadway and a sub-soil of clay, an 8-inch crown was adopted for the finished roadway.

As our county roads are only partially macadamized, a good crown is necessary for proper and economical maintenance. I would recommend that the following be adopted :

Proposed crown for county roads.

Roadway.	Crown in inches.		
	Longitudi- nal slope exceeds 4 per cent.	Longitudi- nal slope 2 per cent. to 4 per cent.	Longitudi- nal slope less than 2 per cent.
	Inches.	Inches.	Inches.
40 feet wide	8	9 $\frac{1}{2}$	11
33 feet wide	7	8	9

The kind of stone used for road construction and maintenance is a matter of serious importance, especially the surface stone. This should be of the toughest variety attainable. The cheapest stone is rarely the best.

In the order of their value for macadam, we have : 1, basalt ; 2, syenite and granite ; 3, limestones ; 4, sandstones. (Herschel.)

The top course should be of tough trap rock, broken to pass over a 1 $\frac{1}{4}$ -inch hole, and pass through a 2 $\frac{1}{4}$ -inch hole, and free from flat pieces or spalls. (Report board of experts to the mayor of Philadelphia, July 8, 1884.)

It is generally agreed that tough trap is the best material for road surfaces. This rock can not be obtained in this vicinity, and by experience it has been ascertained that white flint is the best local substitute. White flint crushed to proper size has cost about \$2.20 per cubic yard delivered on the line of the work. It has been recently ascertained that trap rock crushed to proper size and freed from dust can be shipped

from New York and delivered on the line of work at a cost of about \$2.75 to \$3 per cubic yard. A 3-inch layer of such material would make the best possible finish to a macadam road and its greater resistance to the wear and tear of traffic would probably make it cheaper in the end than the local varieties. The experiment will be tried.

For the Telford base and first layer of macadam most of the local stones will answer, though the tougher and harder varieties are preferable.

MAINTENANCE.

The patrol repair system was inaugurated early in May, 1887, substantially as recommended in my last annual report. The appropriation for repairs to county roads and suburban streets, 1887-'88, had, however, been reduced to \$25,000, and it was found necessary in July to curtail the number of road-keepers to such an extent that it is impossible as yet to form any correct judgment concerning the full result of the experiment. The principal difficulty seems to be the procurement of reliable men, men who can be trusted to render a fair return for wages received when subjected to so little supervision as is necessarily the case with road-keepers. This difficulty once overcome it will be possible to permanently establish this system for all the important roads. It will be in the end unquestionably the most satisfactory and cheapest system of maintenance.

BRIDGES.

Appropriation, \$12,660.

Ordinary care of the Bennings, Anacostia, and Chain Bridges.....	\$2,000
One bridge-keeper at Chain Bridge	660
Repairing and maintaining bridges	10,000
Total	12,660

The superintendent of streets reports:

A new floor was laid on the south roadway of the K Street Bridge across Rock Creek, new floors were laid on both roadways of the P Street Bridge across Rock Creek, and the footways of the Anacostia Bridge were repaired with good second-hand lumber. The timber from the southern approach to the Aqueduct Bridge across the Potomac River was removed and stored at the G street property yard. Twenty-eight minor repairs were made to bridges and bridge approaches. Total expenditure by this office, \$1,038.89.

The expenditures made under the supervision of the superintendent of county roads were as follows:

Eastern section	\$1,147.29
Middle section	1,121.31
Western section	899.64
Total	3,168.24

Nearly all the bridges in the District were painted under contracts, as follows:

Designation of bridge.	Cost of work.	Designation of bridge.	Cost of work.
Anacostia, over Eastern Branch.....	\$427	Military road, over Rock Creek.....	\$25
Argyle Mill road, over Rock Creek.....	20	Woodley Lane road, over Rock Creek ..	35
Fourteenth street road, over Piney Branch	12	P street, over Rock Creek	68
Pierce Mill road, over Piney Branch....	10	M street north, over Rock Creek	73
Giesborough road, over Oxen Run.....	10	M street south, over James Creek Canal	57
Livingston road, over Oxen Run.....	25	Bennings road, over Eastern Branch ..	57
Wheeler road, over Oxen Run	15	K street north, over Rock Creek.....	60
N street south, over James Creek Canal.	50	Total	\$1,004
Pierce Mill road, over Rock Creek	50		

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The Anacostia Bridge was newly floored and received other repairs, at a cost of \$4,785.13.

The total cost of inspection on all contract work was \$282.50.

Summary of expenditures.

Pay of one bridge-keeper at Chain Bridge.....	\$660.00
Pay of one watchman, Anacostia and Benning's bridges	710.00
Current repairs, dangerous holes, etc.:	
By superintendent of streets.....	1,038.89
By superintendent country roads	3,168.24
Painting bridges	1,004.00
Repairs to Anacostia Bridge.....	4,785.13
Pay of inspectors on contract work	282.50
Fuel for watchman, Anacostia Bridge.....	8.76
Purchase of lumber for reflooring Benning's Bridge.....	825.00
Advertising	7.00
Balance.....	170.48
Total	12,660.00

SURVEY OF THE DISTRICT.

Appropriation \$4,000.

The progress of this work is shown in the following table:

	1885-'86.	1886-'87.
Number of sheets, photolithographed	12	15
Number of sheets, field-work completed.....	3	8
Number of sheets, field-work partially completed	6	16
Number of sheets, field-work not commenced	39	21
Total number of sheets.....	60	60

During the past year the work has been under the immediate charge of Assistant J. W. Donn, of the Coast Survey. During the current year two parties are in the field under Assistants Donn and Hodgkins. The appropriation for this year, being the same as for 1886-'87 (\$4,000), will probably be exhausted in December. This work is of great importance, and it is desirable that it should be completed at an early date. If a sufficient sum be appropriated the field-work can be finished during the next fiscal year. The estimated cost of completing the survey is \$10,000. I would recommend that Congress be asked to appropriate this sum and make it immediately available so that work may be resumed next spring.

PROPERTY.

The present regulations governing the storage and care of material for street work are quite defective. There are but three property yards where such material can be kept under proper surveillance—the so-called G street yard at the foot of New Hampshire avenue N. W.; the Sixth street yard, comprising square 473, S. W.; and the Sand Yard, comprising the small reservation between Canal and B streets and First and Second streets S. W.

All material delivered by water is stored in these yards. Such material as curb, granite paving blocks, etc., delivered by rail is deposited in vacant squares and reservations in the vicinity of the tracks. Old material, such as curb, rubble and cobblestones, gutter, stones, flagging, etc., when removed from streets to be improved, are likewise deposited at the nearest available point. Experience has convinced me that the immediate economy is more than counterbalanced by the subsequent

losses attending such loose methods. Not long since first-class rubble-stone was excavated from the vicinity of Canal street S. W., for use on the Bennings road. Ground in this vicinity is used as a public dump, and the stone were being gradually buried beneath an 8 or 10 foot layer of rubbish. Some had already been covered; how much is not known.

I deem it a matter of great moment that a property yard be secured in the northern part of the city, preferably in the vicinity of North Capitol and M streets. The unimproved streets in the northwest would then be flanked by this yard and the G street yard. The latter is conveniently located for Georgetown and the former for the northeast section. The sand yard and the Sixth street yard suffice, at present, for the southeast and southwest sections.

All street material, old or new, should be stored in these yards, where it can be properly cared and accounted for.

The annual rental of the Sixth-street yard is \$300. It is probable that a suitable yard near North Capitol street can be obtained for from \$300 to \$500 per annum.

A yard-keeper should be in charge of each yard, under the direction of the property clerk.

ORGANIZATION.

In many of the divisions of the engineer department the present authorized force is inadequate to the proper execution of the necessary work.

FIELD-WORK DIVISION.

Present force.

Designation.	Sal: ry.	Total.
1 computing engineer.....	\$2, 400	\$2, 400
1 assistant engineer.....	1, 600	1, 600
2 assistant engineers (each).....	1, 500	3, 000
1 draughtsman.....	1, 200	1, 200
3 inspectors of streets and sewers (each).....	1, 200	3, 600
3 rodmen (each).....	780	2, 340
3 axmen (each).....	650	1, 950
Total.....		16, 090

The three assistant engineers have been assigned to duty as follows: One has general charge of the street-improvement contract work in the northwest section and Georgetown; one has charge of the same work in the northeast, southeast, and southwest sections; and the third has charge of all contract sewer work in the District. The fixing of grades and lines; the constant inspections necessary to see that these grades are observed; the preliminary, partial, and final measurements necessary on each street and square under contract absorb the time of these three assistants.

For the necessary engineering work on county road and suburban street improvements it has been found needful to employ a trained engineer as supervising inspector.

The necessary field engineering, in connection with the large expenditures for permit work, has been executed by one of the inspectors of streets and sewers, who is an educated engineer. He is receiving inspector's pay for the services of a civil engineer.

During the past year there has been an unusual demand for the grades of suburban streets on the part of the property owners, who propose to grade and improve the streets without expense to the District. Except in a few instances, the department has been unable to

comply with these demands for want of engineers. One, if not two, field parties could be continuously employed on this work with profit to the District and satisfaction to the property owners. The fixing of these grades involves consideration of the surface drainage, the sewer system, water and gas supply, and grades of contiguous streets. The problem should be studied as a whole, and not worked out piecemeal.

There are also numerous cases constantly arising involving the determination of levels, etc., in the disposal of which the department is greatly hampered for want of a sufficient number of employés.

The salaries of the assistant engineers and the draughtsman are not proportioned to the services rendered.

An increase in the number of assistant engineers entails a corresponding increase in the number of rodmen and axmen, as each engineer requires a field party of one rodman and one axman.

A clerk is greatly needed in the office of the computing engineer, to assist the latter in the performance of his duties and the care of the office records, charts, maps, plats, etc.

I would recommend the following organization for the field-work division :

Proposed force.

Designation.	Salary.	Total.
1 computing engineer.....	\$2,400	\$2,400
1 assistant engineer	2,000	2,000
2 assistant engineers (each)	1,800	3,600
2 assistant engineers (each).....	1,600	3,200
1 draughtsman	1,500	1,500
1 clerk	900	900
1 inspector of streets and sewers	1,500	1,500
2 inspectors of streets and sewers (each)	1,200	2,400
5 rodmen (each)	780	3,900
5 axmen (each)	650	3,250
Total		24,650

The increased expenditure involved in these recommendations is \$8,560 annually.

DIVISION OF SUPERINTENDENT OF STREETS.

The superintendent of streets has immediate supervision of all work under the appropriations for "Current repairs to streets, avenues, and alleys," and "Materials for permit work," and a large part of the work under the appropriations for "Sweeping, cleaning, and sprinkling streets, avenues, and alleys," and "Repairs to bridges."

The permit work has so increased in extent and multiplicity of details, especially since the establishment of the compulsory permit system, as to require the entire time of one clerk. Separate pay-rolls are necessary for each piece of work, be it great or small. Another clerk is required to keep the balance of the office records, make out the numerous pay-rolls and requisitions, post the various repair books, time books, daily-report books, etc.

But one clerk is authorized for this office at present, and another is greatly needed.

DIVISION OF COUNTY ROADS.

The superintendent of county roads receives only \$1,400 per year. This officer is zealous and untiring in the performance of his duties, and it is respectfully submitted that the above compensation is not commensurate with the importance and extent of the duties with which he is charged.

PROPERTY DIVISION.

For the proper receiving, caring for, issuing, and accounting for District property this division should have the following increase in force:

One clerk.....	\$900
Four yard-keepers, at \$720 each	2,880
Total annual increase	3,780

The pay of the yard-keepers (one for each property yard) is fixed at \$720 per year because of the responsibility attached to such position, and the clerical requirements as to receiving, issuing, and accounting for the property.

RECORD DIVISION.

The office work in this division has increased to such an extent during the past year that an additional clerk in the office of the chief clerk is necessary for the proper and prompt transaction of current business.

A comparison of the present force allowed the engineer department with that authorized in 1879-'80 will show that the force has not been increased in proportion to the growth of the city and the resulting increase in work, and that we are falling behindhand yearly.

The lack of suitable provision for employes in the general salary list necessitates expenditures from the specific appropriations for improvements and repairs for inspectors and overseers to supervise the details of such work, thereby reducing the total effectiveness of these appropriations.

Very respectfully, your obedient servant,

EUGENE GRIFFIN,
Captain of Engineers, U. S. A.

APPENDIX 1.

REPORT OF THE CHIEF CLERK.

DISTRICT OF COLUMBIA, STREETS AND HIGHWAYS,
Washington, December 3, 1887.

COLONEL: I have the honor to submit the following report of the operations of the clerical work done by this division of the Department during the fiscal year ending June 30, 1887.

Of the large amount of work performed, the following is enumerated, which, upon comparison with former years, will show a notable increase. Aside from this, a large amount of miscellaneous clerical service has been done in connection with the public service in this and other branches of the District Government.

The following comparative statement is submitted:

	1885-'86.	1886-'87.
Number of communications received, briefed, and recorded in Letters Received Book	3,590	6,547
The number of indorsements, references, and reports upon these were.....	16,623	46,829
Number of letters and orders	2,579	5,304
Number of copies of contracts drawn and recorded	126	429
Number of permits (gas, sewer, water, and miscellaneous) issued	6,952	7,031
Number of vouchers and bills prepared and forwarded in triplicate.....	1,949	2,241

In the performance of this work the clerical force was not increased; on the contrary, part of the force had to be detailed for the performance of work in other branches of this Department. The inadequacy of force has necessitated much overwork on the part of the present force in order to keep the work up.

The service performed by the Engineer Department has so increased and multiplied year by year that it became necessary to enlarge the system by classifying work under suitable heads and divisions. This classification is the development of a system of transacting business that has long been in existence, and gives it greater scope and throws around it greater safeguards, resulting in better and more accurate work. The new classification of duties and assignment of work arranged by the Engineer Commissioner is as follows:

The chief clerk's division has charge of all correspondence, the preparation of all contracts, vouchers, and accounts for public works and structures, and the preparation of all records of all business transactions.

The field-work division has charge of the establishment of grades, laying out, conducting, and measuring all surface work of improvements and repairs of pavements, and all other surface work, etc.

The sewer division has charge of the construction of new sewers, the cleaning and repairing of sewers and basins, and all underground work, etc.

The street and alley division has charge of all current repairs of streets, avenues, and alleys, the cleaning of streets and alleys, the ordinary repairs to bridges within the city limits, and surface permit work, etc.

The road division has charge of the construction, repair, and maintenance of county roads, suburban streets, and county bridges.

The parking and tree division has charge and care of the parks and shade trees and the planting of trees under the jurisdiction of the Commissioners.

The property division has charge of the purchase of all general supplies and construction material, and control of public property, etc.

The lighting division has charge of testing the purity of illuminating gas and the lighting of the public highways.

The building division has the supervision of the construction of all buildings within the District limits, the construction and repair of all school-houses, station-houses, and engine-houses, markets, and the erection of fire-escapes, etc.

The plumbing division has charge of all plumbing work in new buildings and remedying defective plumbing in old buildings, etc.

The chemistry division has charge of testing the strength and purity of cements, the constituent parts of distillate and asphalt pavements, the analyzing of water and food, and performance of such other analytic work as may be assigned to that division.

The surveyors' division makes all surveys of the District and has control of all public records and plats pertaining thereto.

The harbor division relates to keeping a surface water-way clear upon the river front, the enforcement of harbor regulations, and the maintenance of proper police regulation among the shipping.

The telegraph and telephone division has charge of the District system of fire-alarm telegraph and telephone service.

The water division has charge of the laying of new and repairing old water-mains, public pumps, hydrants, and fire-plugs, the distribution of water, the assessment of water-main tax, the preparation of

water-rent books and bills, and all matters pertaining to the distribution of water.

The Commissioners, in their estimates for the expenses of the operations of the District government for the fiscal year ending June 30, 1889, submitted therein propositions embracing the above-mentioned scheme. This project of classification of duties and assignment of work will entail but a small increase of expenditure over and above that now actually expended, while the increased expenditures for public works and structures, requiring constant care and supervision, are much greater in proportion than that of general supervision. There is no doubt that the interest of the District is greatly subserved by the adoption of the arrangement.

A consolidated summary statement of the operations of the department, showing the expenditures for the past fiscal year, the appropriations for the present fiscal year, and the estimates submitted for the ensuing fiscal year, is herewith transmitted. This statement is an epitome of the operations of the department.

The records of the department have been well kept and are in a good state of preservation.

Very respectfully, your obedient servant,

JOSEPH C. ROCK,
Chief Clerk.

Col. WILLIAM LUDLOW,
Engineer Commissioner,
District of Columbia.

Consolidated summary statement of operations of the Engineer Department, showing the expenditures for the past fiscal year, together with appropriations made for the fiscal year ending June 30, 1888, and the estimates for the fiscal year ending June 30, 1889.

Description.	Expenditures for fiscal year ending June 30, 1887.	Appropriations for fiscal year ending June 30, 1888.	Estimates for fiscal year ending June 30, 1889.
Chief Clerk's office, salaries	\$58,406.38	\$8,260.00	\$9,580.00
Contingent expenses		5,000.00	6,000.00
Field Work Division, salaries		16,090.00	16,390.00
Improvement and repairs:			
Work on sundry avenues and streets and replacement of pavements	266,000.00	350,000.00	805,919.03
Repairs to concrete pavements	64,987.26	80,000.00	100,000.00
Constructing, maintaining, and lighting bridges	9,837.06	12,000.00	27,000.00
Ordinary care of bridges	1,985.46		
Condemnation of streets, roads, and alleys			10,000.00
Filling streets, avenues, and alleys below grade		10,000.00	10,000.00
Survey of the District of Columbia	3,995.88	4,000.00	10,000.00
Sewer Division:			
Salaries		1,200.00	12,355.00
Cleaning and repairing sewers and basins	24,928.92	30,000.00	35,000.00
Replacing obstructed sewers		7,500.00	15,000.00
For preparation of plans for sewage disposal			5,000.00
For main and pipe sewers (for sewers)	44,523.34	50,000.00	75,000.00
For constructing suburban sewers		35,000.00	35,000.00
For completion of sewerage system, District of Columbia	53,408.73		
Street and Alley Division:			
Salaries		3,200.00	7,430.00
Sprinkling, sweeping, and cleaning streets, avenues, and alleys	57,714.98	65,000.00	85,000.00
For maintenance of streets, avenues, and alleys (current repairs)	24,995.09	30,000.00	50,000.00
Materials for permit work	59,608.27	90,000.00	100,000.00
Road Division:			
Salaries		2,300.00	5,830.00
Maintenance of county roads and suburban streets (current repairs)	40,000.00	25,000.00	54,000.00

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Consolidated summary statement of operations of the Engineer Department, showing the expenditures for the past fiscal year, etc.—Continued.

Description.	Expenditures for fiscal year ending June 30, 1887.	Appropriations for fiscal year ending June 30, 1888.	Estimates for fiscal year ending June 30, 1889.
Road Division—Continued.			
Constructing county roads and suburban streets.		\$50,000.00	\$78,000.00
Opening and extending suburban streets	\$29,687.52		
Parking and Tree Division:			
Salaries		1,900.00	1,900.00
General expenses, etc.	17,894.33	18,000.00	23,000.00
Property Division, salaries and rent of property yards		4,420.00	8,920.00
Lighting Division:			
Salaries		2,900.00	3,480.00
Contingent expenses	740.44	800.00	320.00
Illuminating material:			
Gas, lamps, etc.	99,908.96	100,000.00	110,000.00
Electric light		20,000.00	30,000.00
Building Division, salaries		7,520.00	11,200.00
Plumbing Division:			
Salaries		2,800.00	4,250.00
Contingent expenses			200.00
Chemistry Division:			
Salaries		2,400.00	3,480.00
Maintaining laboratory, general supplies, etc.			1,000.00
District Surveyor's Division:			
Salaries		1,200.00	1,200.00
Contingent expenses			500.00
Harbor Division:			
Salaries		1,200.00	1,200.00
Improvement and protection of harbor and river front, etc.		2,500.00	8,700.00
Public scales, repair and replacement of	222.85	500.00	500.00
Public pumps, purchase, replacement, and repair of..	3,000.00	3,000.00	5,000.00
Washington Aqueduct		20,000.00	20,000.00
Telegraph and Telephone Division:			
Salaries	8,788.92	8,840.00	10,520.00
General supplies	6,919.29	7,000.00	8,000.00
Putting District wires underground		7,500.00	25,000.00
Water Division:			
Salaries	9,522.20	9,536.00	20,100.00
Contingent expenses	2,400.00	2,400.00	3,000.00
Pumping expenses, pipe distribution, etc.	75,000.00	100,000.00	100,000.00
Purchase of pump-house lot on U street N. W.			2,275.00
Laying water-mains to Anacostia, D. C.			2,500.00
Laying water-mains to Mount Pleasant			7,500.00
Interest on water-stock bonds		26,250.00	26,250.00
Sinking fund on water-stock bonds	44,610.00	18,360.00	18,360.00
Interest on account of increase of water supply..			34,575.39
Sinking fund on account of increase of water supply	57,239.02	76,655.69	52,836.96
Pumping engines for high service		35,000.00	
	1,066,324.00	1,355,231.69	2,098,271.38

* Includes all expenditures for salaries in Engineer Department.

APPENDIX 2.

REPORT OF THE SURVEYOR.

SURVEYOR'S OFFICE, CITY HALL,
Washington, D. C., September 21, 1887.

SIR: I have the honor to submit my annual report of the affairs of this office for the year ending June 30, 1887, as follows, viz:

During the year there have been filed in this office and executed 1,120 orders for surveys, and 195 subdivisions recorded and certified plats issued.

For the honorable Commissioners District of Columbia there have been executed orders for 7 surveys, viz: 4 for school-houses and 3 for the extension of streets,

Plan of the extension of Massachusetts avenue has been recorded. Forty-four investigations and reports upon streets, alleys, and miscellaneous subjects.

I respectfully ask that an appropriation of \$500 be asked of Congress for the purpose of mounting and preserving valuable maps and old records fast going to decay, for files and shelves for current records, record books, and stationery.

Very respectfully, your obedient servant,

WM. FORSYTH,
Surveyor District Columbia.

Col. WILLIAM LUDLOW,
Corps of Engineers, U. S. A., Engineer Commissioner D. C.

APPENDIX 3.

REPORT OF PARKING COMMISSION.

WASHINGTON, *July —, 1887.*

SIR: The parking commission have the honor to submit the following report for the fiscal year ending June 30, 1887.

REMOVING TREE-BOXES.

Many years ago the removal of boxes from trees which had attained sufficient size and strength to maintain themselves formed a matter of consultation. The cost of maintaining the boxes, their rather unsightly appearance at best, along with other objections, seemed to point to the desirability of their removal. The boxes from about fifty of the largest trees were removed, but owing to their becoming mutilated by horses nibbling the bark, the protecting boxes were replaced. But it became evident that these wooden erections should not longer be maintained, and that for several important reasons. As soon as a tree becomes so large that the box is no longer able to support and control it during windy rain-storms, then the box becomes liable to cause a serious disaster, and that is the overthrowing of the tree. The tree, in swaying over, breaks or loosens the stakes and carries the box with it, but when it endeavors to recover itself the box, being rigid, prevents the natural backward swaying of the tree to an upright position, so that every fresh blast of wind bends it still further, until it is eventually either broken or prostrated; so that trees without boxes are less likely to be blown down than are those to which boxes are attached. Again, the boxes are found to be harbors of refuge and breeding places for insects. This has been specially noticed during the past few years. Trees without boxes suffer less from caterpillars than those where the boxes have not been disturbed. But it can not be overlooked that many of the exposed trees are suffering injury from horses. So much is this the case in places that it has necessitated the replacement of boxes, and caused a hesitancy about further removals in some instances. In view of the many and important advantages accruing from the removal of these boxes, it is to be hoped that more effective measures will be taken to punish those who leave horses in a position where they can so seriously damage public property.

LIME-WASHING TREES.

It has long been a matter of observation that horses are not prone to nibble and bite the trunks of trees which are covered with lime-wash.

It was therefore deemed advisable to take advantage of this minor method of protection, hoping that by washing the stems, horses might be gradually weaned from this tree-biting propensity. At all events it saved the trees for the time being. This explanation may allay the fears of those who apprehended that the trees were whitewashed for the purpose of destroying caterpillars after the caterpillars had disappeared.

Trees are sometimes treated with this application for the purpose of removing scale insects from the bark. Several years ago a great many trees in this city were badly infested with these insects, but by removing all the smaller branches and covering the remainder with lime-wash the insects were destroyed and the trees recovered their health.

Objections have been made to lime-washing trees on the ground that it closed up the breathing pores in the bark and would ultimately destroy the plants. But as trees have no breathing pores in their bark, and as they have been so treated in many thousands of cases without being injured thereby, this objection need not be repeated.

PRUNING.

As a general rule, ornamental trees in parks and lawns require but little pruning. But trees in streets are subjected to a great many harmful influences from which park trees are exempt. In the city they are necessarily under artificial conditions. Of a necessity they are deprived of their lower branches, which would otherwise interfere with the proper use of the thoroughfares; this tends to weaken their stems and seriously deprives them of the power of resisting storms. The liability to injury from storms is further increased in young trees that are making dense and luxuriant growths on tall and slender stems. At least this defect is given by pruning or thinning out a portion of the branches, so that the winds may blow through the tops instead of striking them over.

With some species this manipulation is unavoidable if we wish to preserve the trees from breaking or blowing down.

One of the largest expenditures in pruning arises from the necessity of removing drooping branches which interfere with the use of the streets and sidewalks. Another reason for the removal of the lowest branches is their growing interference with the dissemination of light from the street lamps; the interference of the foliage, in some streets, with the light from lamps calls for speedy relief.

AWAYING.

Applications for the removal of trees for the purpose of erecting buildings are frequently received.

The necessity for the destruction of valuable trees in order to erect buildings would be avoided if the rule was adopted that the supporting wall of a building be set back at least two feet inside the curb-stones. This would not interfere with travel, being about the inside line of the

tree-boxes; all the lower branches could be removed to a height sufficient to give entire freedom to the use of the awning, and at the same time preserve the uniformity and beauty of the trees.

THE CATERPILLAR PLAGUE.

Although no season passes without the presence of caterpillars on the trees, yet they have not been so numerous in twenty years as they were last season; and they are fully as plentiful this year as they were during the last. Efforts to suppress these insects have caused considerable outlay, and with only partial success; but experience has been gained which will be valuable in future operations.

When the Parking Commission first went into operation, some sixteen years ago, it was very desirable to plant trees of rapid growth. Many of the old shade trees had recently been and were being removed to make way for improvements, hence it was a matter of much importance at that time to replace them so that shade might again be furnished as soon as practicable. Among the trees chosen for rapid growth was the ash-leaved maple, *Negundo-aceroides*. After some years had elapsed it was found that this species was particularly liable to be attacked by caterpillars, and it was resolved to discontinue their further extension. Previous to this, however, over 4,000 of these trees had been set out in various streets, where they still remain.

The white poplar, *Populus-alba*, had been, for many years previous to 1870, set out in numbers throughout the city. This tree being among the first to fall a prey to insects, and for other essential reasons, was excluded from the list of desirable trees, so that no plants of this species have been set out in this city during the past sixteen years, but wherever possible they have been removed until but few remain. The negundo trees will probably also have to be replaced by a more suitable tree as opportunities offer for their removal.

The two trees just mentioned seem to be the first preference of the web caterpillars, but all others are not by any means free from their attacks. Next to these, perhaps, the linden, *Tilia americana*, suffers most; then the elms and the sycamore, *Platanus-occidentalis*. The white ash, *Fraxinus americana*, suffers considerably.

Of those most exempt may be mentioned the Carolina poplar, the sugar, the silver, and the Norway maples; these are the last to be attacked, and seldom severely. The tulip tree, *Liriodendron-tulipifera*, is rarely touched; the few honey locusts, *Gleditschia-triacanthus*, set in the streets, are rarely injured by insects of any kind.

After various efforts with other methods of restricting caterpillar ravages, we still continue that of cutting out the branches containing the webs, as we find it to be the most economical and practical method. One drawback towards more effectiveness in cleaning the trees has been a lack of funds towards the end of the fiscal year to place additional force on this work at the proper time, that is, on the first appearance of the insects. It may be supposed that funds for this purpose might be retained by reducing on other items of expenditure; but a factor of uncertainty connects itself with this idea, arising from the circumstance that the extent of necessities cannot be foretold, as the insects vary in numbers from year to year. This uncertainty might be met by a special fund appropriated for the purpose, to be used as required.

Referring to some of the many remedies advised for the destruction of caterpillars, that of burning the webs has been so often recommended that, in some cases, citizens (with the best intentions) have undertaken to clear the trees in front of their residences by applying the torch to the webs, to the great injury and disfigurement of the trees.

This method was tried by the Parking Commission many years ago, and was speedily abandoned. It was found to be an awkward and tedious process at best; then the trees were badly injured by the fire. Not only were the affected branches injured, but, in the endeavor to penetrate to these, many other twigs and leaves were destroyed, so that the labor involved in cutting the dead branches and scorched twigs proved to be greater and more costly than the present method of pruning out the affected twigs at once, and this without reference to the labor and time required in the burning operation in the first place.

As a method of destroying caterpillars in this city it is impracticable and undesirable, and, all things considered, should be denounced and prohibited.

Spraying trees with poisoned water as a means of destroying leaf-eating insects has become a popular method during the past fifteen years. This is promptly effectual in most cases, but with the web caterpillar we have found that it does not act with so much certainty, owing, it may be presumed, to the impervious nature of the web preventing the coating of the inclosed leaves with the poison; at all events we have found that a second, and more frequently a third, application was needed to destroy the colonies. But it is thoroughly effectual if persistently applied.

Some years ago we had an approved spraying apparatus at work on the street trees. Paris green as well as London purple was used in the water, and the results were as mentioned above. Since then the application has frequently been made, in rather an experimental way, but we have never found that one application will clear a tree for the season, so that we have not considered it advisable to recommend the outlay which would be necessary to provide for the large number of these spraying affairs which it would be necessary to employ in order to operate upon, say, ten thousand trees in the comparatively brief period of one week.

With regard to the insects which destroy the leaves of the elm trees, the poisoned water acts promptly and effectually, as we have proved many years ago.

Even if spraying was found to be the most economic mode of resisting the web caterpillar, there is one consideration that we could not wholly ignore, and that is the effect upon the operators who unavoidably are subjected to the influence of the poisoned spray as it falls upon their persons. In our experiments we have felt the spray falling on the face, and the effects of this, continued from day to day, cannot be altogether devoid of danger. Where only a few trees have to be operated upon, a quiet day can usually be selected, but where thousands are on hand, the work must be continued until completed.

GENERAL CONDITION OF THE TREES.

Notwithstanding the ravages of caterpillars last year, the trees have never appeared in a healthier condition than they did last May. Even those which were entirely denuded of leaves last August by the later broods of insects showed no symptoms of injury.

We have, in previous reports, noted that after the yearly shoots have about finished their growth a partial loss of leaves causes no material injury.

Many of the trees, especially those that have been planted where the streets have been deeply cut into poor soil, are now showing the need of additional nutriment. This has been supplied, in numerous cases, by virtually extending the original hole of prepared soil, and with decided benefit to the trees. It is proposed to continue this renewal where it is most needed, so as to preserve, as far as practicable, a uniformity of growth. But with the limited means allowed for the maintenance and extension of the tree area, many necessary operations have to be postponed.

Some idea of the extent of tree planting in this city during the past sixteen years may be gleaned from the statement that, allowing the trees a distance of 25 feet apart, which is a fair average, they would form a dense forest covering something over 900 acres of land.

For special details of work executed we refer you to the report of Mr. Lanham, Superintendent of Parking, which is herewith submitted.

In this connection we desire to say that Mr. Lanham's zeal and administrative efficiency deserves the highest praise.

WILLIAM R. SMITH.

JOHN SAUL.

WILLIAM SAUNDERS.

COL. WILLIAM LUDLOW, U. S. A.

Engineer Commissioner, District of Columbia.

OFFICE OF THE PARKING COMMISSION,
Washington, D. C., July 1, 1887.

GENTLEMEN: I have the honor to report that, in addition to ordinary routine work of caring for trees and parkings during the fiscal year ending June, 1887, the following has also been performed, viz:

The removal of old, useless, and, in some cases, dangerous trees has been effected to the number of 1,435.

The street planting has been extended to the number of 1,867 young trees of various kinds.

Two hundred and seventy-nine trees have been set, replacing dead and decaying trees.

Seventy trees were lowered to conform to change of grades, and on Corcoran street, between Seventeenth and Eighteenth streets, 30 trees were moved from the center of the pavement to the curb line.

Three thousand five hundred trees received a coat of lime-wash. About 10,000 tree-boxes have been removed and hauled to the office yard (at nursery). As time permitted these have been assorted and the sound material selected, and from this 2,600 serviceable boxes have been made and used on newly-planted trees. There is also enough of this sound material yet on hand to make 5,000 more good boxes, so that no boxes have been purchased during the year, nor will any new material, except stakes, be required for several years to come.

The large sycamore trees on Eleventh street from the river to Boundary street, and those on Sixth street from Pennsylvania avenue to the river, were closely pruned last winter, and are looking well.

Considerable amount of labor has been expended in the removal of caterpillars from the trees.

At the close of the fiscal year ending June, 1886, and during that month, these insects appeared in unusually large numbers, but the appropriation for that year had become so far exhausted that only a small force could be employed in their removal,

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and they obtained such headway that when the appropriation became available in the July following our efforts to control them were greatly ineffective.

During the past months of May and June these insects have appeared quite as numerous as in the preceding year, and although sufficient funds were not available to increase the working force just at the proper time, yet what has been done proves our ability to repress the caterpillars if we have the money to put on enough pruners at their first appearance.

It is noticeable that on trees from which boxes have been removed the caterpillars are less numerous than they are on those trees where the boxes still remain.

The tree-planting has overtaken street improvements, and at the close of the planting season last spring all streets where the grade had been established and curbing set were planted with trees.

There are now on the streets and avenues of the city, under the care of the parking commission, 63,014 trees, located as shown by the accompanying data obtained by actual count of the same during the winter and spring months just past.

Respectfully submitted.

TRUEMAN LANHAM,
Superintendent of Parking.

The PARKING COMMISSION.

NOTE.—There are also a number of shrubs on terrace on Massachusetts avenue, between Fourteenth and Fifteen streets northwest, and in reservation front of Center Market, in charge of parking commission.

Number and varieties of trees in the city of Washington under control of the parking commission to July 1, 1887.

Common name.	Botanical name.	Number.
Soft or white maple	<i>Acer dasycarpum</i>	23,305
Sugar and black or southern maple	<i>saccharinum</i>	}
Norway maple	<i>nigrum</i>	
Scarlet or red maple	<i>platanoides</i>	2,786
Sycamore maple	<i>rubrum</i>	864
Ash-leaved maple or negunda	<i>pseudo platanus</i>	422
American linden	<i>negundo</i>	4,043
European linden	<i>Tilia americana</i>	5,121
American ash (mixed)	<i>europea</i>	409
Sycamore or buttonwood and European plane tree (mixed)	<i>Fraxinus americana and other species</i>	967
American elm, European elm (mixed)	<i>Platanus occidentalis</i>	}
Winged elm or wha-whoo and slippery elm (mixed)	<i>orientalis</i>	
Carolina poplar (mixed)	<i>Ulmus americana</i>	}
Lombardy poplar	<i>alata</i>	
Grecian poplar	<i>fulva</i>	
Turkistan poplar	<i>campestris</i>	
Catalpa (mixed)	<i>Populus monilifera</i>	}
Willow, laurel-leaved	<i>quadrangulata</i>	
Ginkgo (or maiden's hair tree)	<i>fastigiata</i>	
Sweet gum	<i>græca</i>	
Oaks (mixed)	<i>species from Turkistan</i>	7
	<i>Catalpa kempferi</i>	857
	<i>fignonoides</i>	854
	<i>Salix pentandra</i>	78
	<i>Salisburia adiantifolia</i>	145
	<i>Liquidamber styraciflua</i>	73
	<i>Quercus palustris</i>	}
	<i>phellos</i>	
	<i>bicolor</i>	
	<i>alba</i>	
	<i>heterophylea</i>	
	<i>rubra</i>	
	<i>rober</i>	
	<i>fastigiata</i>	
	<i>coccinea</i>	
Horse chestnut	<i>Æsculus hippocastrum</i>	244
Kentucky coffee	<i>Gymnocladus canadensis</i>	160
Honey locust	<i>Gleditschia triacanthos</i>	1,206
Tulip tree	<i>Liriodendron tulipifera</i>	1,712
Aspen poplar	<i>Populus alba</i>	1,863

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Number and varieties of trees in the city of Washington under control of the parking commission to July 1, 1887—Continued.

Common name.	Botanical name.	Number.
Ailanthus	Ailanthus glandulosa.....	50
Cork or white elm	Ulmus racemosa.....	15
Paper mulberry	Broussonetia papyrifera	62
Cypress (mixed)	Tarodium distichum.....	} 24
	sinense.....	
Zelkoua tree.....	Planera acuminata.....	5
	Philodendron amurense.....	3
Total .....	.....	63, 014

NOTE.—On Massachusetts avenue, between Fourteenth and Fifteenth streets northwest and in reservation front of Center Market, there are 500 shrubs and evergreens not included in the total number of trees.

Memorandum showing the number of trees in the city of Washington under

Location.	Soft maple. <i>Acer dasycarpum</i> .	Sugar maple, mixed. <i>Acer saccharinum</i> .	Norway maple. <i>Acer platanoides</i> .	Scarlet maple. <i>Acer rubrum</i> .	Sycamore maple. <i>Acer pseudo plantanus</i> .	Ash-leaved maple. <i>Acer negundo</i> .	American linden. <i>Tilia americana</i> .	European linden. <i>Tilia europea</i> .	American ash, mixed. <i>Fraxinus americana</i> .	Buttonwood, mixed. <i>Plantanus orientalis</i> . <i>occidentalis</i> .	European-American elm, mixed. <i>Ulmus alata</i> . <i>americana</i> . <i>fulva</i> . <i>campestris</i> .
A north, from 1st to 13th east.....	276			2				1		2	
B north, from N. Cap. to 13th east..	28			1		201					71
B north, from N. Cap. to 17th west..											75
C north, from N. Cap. to 12th east..	281										
C north, from N. Cap. to 15th west..	189								40		32
D north, from N. Cap. to 13th east..	137										
D north, from N. Cap. to 15th west..	78							4		86	
E north, from N. Cap. to 14th west..	310	1	13					2	1	3	
E north, from 17th to 23d west.....	217										
E north, from N. Cap. to 10th east..	233										
F north, from N. Cap. to 13th east..	4		354			52					
F north, from N. Cap. to 7th west..	2		185					4			
F north, from 17th to 26th west.....	114	59	80	14							
G north, from N. Cap. to 14th east..						11			170	76	
G north, from N. Cap. to 15th west..	11							210		199	12
G north, from 17th to 26th west.....	302							1			
H north, from N. Cap. to 15th east..	452										
H north, from N. Cap. to 15th west..	433							5		8	
H north, from 15th to 27th west.....	109		44			217				2	23
I north, from N. Cap. to 14th east..											
I north, from N. Cap. to 17th west..	126		7	16	92		6				2
I north, from 17th to 27th west.....	78	1	2	10	84	9				2	
K north, from N. Cap. to Boundary east.....	272										
K north, from N. Cap. to 32d west..	978	271	8	4				10		17	5
L north, from N. Cap. to 27th west..	28			179	2	688		3		3	
L north, from N. Cap. to Boundary east.....	1					22					
M north, from N. Cap. to Boundary east.....	236										
M north, from N. Cap. to 34th west..	1, 130	3		13				7			
N north, from N. Cap. to 35th west..	222	15	129	22		566	12			3	1
O north, from N. Cap. to 37th west..	304	10		2		304		7		3	
P north, from N. Cap. to 27th west..	198	7	4	1		119	7		294	1	
P north, from 27th to 36th west.....	66	132		67						1	
Q north, from N. Cap. to 22d west..	636	1		16			1				
Q north, from 28th to 31st west.....	18		7								
R north, from 3d west to 22d west..	25	1	3	6	1		537				42
R north, from 32d to 35th west.....	2			5							1
S north, from 4th west to 20th west..	107	2	2			404					
T north, from 6th west to 19th west..	50	3		9				6			
U north, from 9th west to 18th west..			75	3	5						
U north, from 28th west to 35th west..	41										
V north, from 9th west to 18th west..	71										
W north, from 9th west to 15th west..											
A south, from 1st to 12th east.....	272										
B south, from S. Cap. to 12th east..	35			8		126			2		
B south, from S. Cap. to 14th west..	11						244				105
C south, from S. Cap. to 12th east..	191			50		61		8			34
C south, from 7th west to 15th west..	24				8					162	
D south, from S. Cap. to 14th west..	19										27
D south, from S. Cap. to 11th east..	17						216				
E south, from S. Cap. to 19th east..	31						179				
E south, from S. Cap. to 14th west..	22										
F south, from S. Cap. to 14th west..	362									1	
G south, from S. Cap. to 14th west..	28					218					
H south, from S. Cap. to 10th east..											
I south, from S. Cap. to 10th west..	1										
I south, from S. Cap. to 12th east..				5							
K south, from S. Cap. to 8th west.....	2									16	

control of the parking commission, the varieties and location, to July 1, 1887.

Carolina poplar, mixed. <i>Populus monilifera</i> . <i>quadrangulata</i> .	Tulip tree. <i>Liriodendron tulipifera</i> .	Lombardy poplar. <i>Populus fastigiata</i> .	Grecian poplar. <i>Populus græca</i> .	Turkistan poplar. <i>Populus</i> (species from Turk- istan).	Catalpa, mixed. <i>Catalpa kœmpferi</i> . <i>bignonioides</i> .	Willow, laurel-leaved. <i>Salix pentandra</i> .	Ginkgo. <i>Salisburia adiantifolia</i> .	Oak. <i>Quercus</i> (in variety).	Horse chestnut. <i>Æsculus hippocastanum</i> .	Kentucky coffee. <i>Gymnocladus canadensis</i> .	Honey locust. <i>Gleditsia triacanthus</i> .	Aspen poplar. <i>Populus alba</i> .	Ailanthus. <i>Ailanthus glandulosa</i> .	Cork elm. <i>Ulmus racemosa</i> .	Paper mulberry. <i>Broussonetia papyrifera</i> .
1											1	14			
185		39										11			
57	14							1			69				
											11	2			
											12	8	3		
											26				
												2			
												12			
												2			
2															
												7	1		
												3			
			4									69			
4									2			7			
215												6			
403															
206												11			
3	78				244				2			39	3	1	
40					296					14		17	1		3
					2	4									
											31	3			
7									6			5			
5	1											18			1
144				3					1			25			3
277											1	6			1
											25				
7						1	2		2			2			
											3	2			
1												9			
13												2			
									3		1	6			
424												5			
											118				
	3														
	10										3				
						5					68	1			
30												10			
							11				1	14			2
												3			
											2	11			
286															
123												40	3		
2					1										
28					8						334	8			
					1						168	19			1
												31	2		7
3	1				1				1						
199															
171															
63												1			1
											1	18			
												13			

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Memorandum showing the number of trees in the city of Washington under control

Location.	Soft maple. <i>Acer dasycarpum</i> .	Sugar maple, mixed. <i>Acer saccharinum</i> .	Norway maple. <i>Acer platanoides</i> .	Scarlet maple. <i>Acer rubrum</i> .	Sycamore maple. <i>Acer pseudo platanus</i> .	Ash-leaved maple. <i>Acer negundo</i> .	American linden. <i>Tilia americana</i> .	European linden. <i>Tilia europa</i> .	American ash, mixed. <i>Fraxinus americana</i> .	Buttonwood, mixed. <i>Platanus orientalis</i> . <i>occidentalis</i> .	European-American elm, mixed. <i>Ulmus aiata</i> . <i>americana</i> . <i>fulva</i> . <i>campestris</i> .
K south, from S. Cap. to 11th east	3			18							
L south, from S. Cap. to 11th east											
L south, from S. Cap. to 7th west	2										
M south, from S. Cap. to 7th west										219	
M south, from S. Cap. to 11th east										285	
N south, from S. Cap. to 3d east	129									5	
N south, from S. Cap. to 7th west	188										
O south, from S. Cap. to 6th west											
Water south, from 4½ to 9th SW											
1st west, from Pa. ave. to K north	35		195								57
1st west, from Pa. ave. to river			14								936
2d west, from Pa. ave. to K north	6						210				8
2d west, from Md. ave. to N south	2										
3d west, from Md. ave. to Boundary north	559		9								
3d west, from Md. ave. to H south	214	39					6	4			9
4th west, from D north to Boundary	13					271		85		5	6
4½ west, from D north to P south	54									9	428
5th west, from D north to Boundary north	27					3					22
6th west, from Pa. ave. to Boundary north	595	3			1		3	3		4	
6th west, extended	68				8	7			5		
6th st. W., Pa. ave. to P st. south	43									403	
7th st. W., Pa. ave. to river	15										
8th west, from G north to Boundary north	43	94	297	12	1		5			1	
8th west, extended	3										
8th west, from B south to river	12										
9th west, from G north to Boundary north	440	2						11		5	
9th west, from Pa. ave. to B north	15		13								1
9th west, from B south to river	208										
10th W., from B north to Boundary	614		1				8			4	
10th west, from B south to river	3										162
11th west, from B south to river	27	2	2							140	
11th west, from B north to Boundary	60	18		18	5			18		663	
12th west, from B north to Boundary	541			3				3		9	1
12th west, from B south to river	118										
13th west, from B north to Boundary	54	2	332	9			21		71		2
13th west, from B south to river	29					4			83		
13th west extended			78								
13½ west, from B south to river	3									3	
13½ west, from B north to E north											
14th west, from B south to river	104										
14th west, from B south to Boundary	742				6						
14th west extended	224									14	
15th west, from north B to Boundary	30			8		389		1			110
15½ west, from H to Pa. ave	7	6					2			3	11
16th west, from H to Boundary	36		401				5		2	7	
16th west extended	8										
16½ west, from H to Pa. ave	2										2
17th west, from B north to Boundary	191		168								
18th west, from D north to R	10				5		368			3	
19th west, from D north to T	523										
19th west extended											
20th west, from D north to V	48										
21st west, from E north to Boundary	414					2	416		95		
22d west, from E north to Boundary	298			3				2			
23d west, from E north to N north	13									2	
24th west, from Va. ave. north to N north	256						149			1	55
25th west, from G north to N north	11										
26th west, from D north to M north	13										
27th west, from I north to L st. north	48										
28th west, from M north to U north	119	26		6			1				

of the parking commission, the varieties and location, to July 1, 1887—Continued.

Carolina poplar, mixed. <i>Populus monilifera</i> . <i>quadrangulata</i> .	Tulip tree. <i>Liriodendron tulipifera</i> .	Lombardy poplar. <i>Populus fastigiata</i> .	Grecian poplar. <i>Populus graca</i> .	Catalpa, mixed. <i>Catalpa kœmpferi</i> . <i>bignonioides</i> .	Willow, laurel-leaved. <i>Salix pentandra</i> .	Ginkgo. <i>Salisburia adiantifolia</i> .	Sweet gum. <i>Liquidambar styraciflua</i> .	Oak. <i>Quercus</i> (in variety).	Horse chestnut. <i>Esculus hippocastanum</i> .	Kentucky coffee. <i>Gymnocladus canadensis</i> .	Honey locust. <i>Gleditsia triacanthus</i> .	Aspen poplar. <i>Populus alba</i> .	Ailanthus. <i>Ailanthus glandulosa</i> .	Cork elm. <i>Ulmus racemosa</i> .	Paper mulberry. <i>Broussonetia papyrifera</i> .	Zelkova tree. <i>Planera acuminata</i> .	<i>Philodendron amurense</i> .
99												5					
10												11					
2												3					
1			15	1							1	2			6		
3			37								60				6		
8				2			72				3	58		14			
10				1								9				5	3
45				2							5		1				
467					1						1	8					
16				3					4			45					
2	1		10	1							1						
237				1	13							35	4		1		
105												32					
8			99									29	5		2		
227												12					
									2			27	1				
10	2								1			1					
12									3			7					
3				1		1			10			1	5		2		
												15					
55		3										2					
									140			48			1		
99												6			1		
											63						
												2					
												59	2				
98			65		1		1	1				17			2		
2																	
7	439			1	1						2	13					
						42											
141										11		16					
2												9					
10					1							18	2		1		
3				1					1		72	7					
3												17	3		4		
5												5					
6												7					
5																	
8											3	2	2				
237									71						5		

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Memorandum showing the number of trees in the city of Washington under control

Location.	Soft maple. <i>Acer dasycarpum.</i>	Sugar maple, mixed. <i>Acer saccharinum.</i>	Norway maple. <i>Acer platanoides.</i>	Scarlet maple. <i>Acer rubrum.</i>	Sycamore maple. <i>Acer pseudo platanus.</i>	Ash-leaved maple. <i>Acer negundo.</i>	American linden. <i>Tilia americana.</i>	American ash, mixed. <i>Fraxinus americana.</i>	Buttonwood, mixed. <i>Platanus orientalis occidentalis.</i>
Hilyer, from Conn. ave. to 21st and Q to R.	35								
Jefferson, from Conn. ave. to 19th and M to N				31					
French, from 9th to 10th and R and S.									
Sunderland, from 19th to 20th and N and P.									
Marion, from 6th to 7th and R. I. ave. to P.									
Riggs, from 13th to 14th and R and S.									
Corcoran, from 14th to 17th and Q and R.	200								
Caroline, from 15th to 16th and T and U.					41				
Pierce, from 14th to 16th and S and T.	11	10					1		
De Sales, from 17th to 18th and L to M.									
Jefferson, from K to M and 30th and 31st W.	1								
Grant, from 9th to 10th and G and H NW.	16								
Potomac, from M to O and 32d and 33d NW.	46			6		41			1
Olive, from M to N and 28th and 29th NW.								42	
Prospect, from M to N and 32d and 33d NW.	16	1					65		4
Dunbarton, from 27th to 32d and N and O.	157	4							
Wallach, from 13th to 14th and T and U.				35					
Union, from M to O and 4th to 6th SW.					69				
Wylie, bet. 12th and 13th NE.	40								
Warner, bet. N. J. ave. and 5th and Q and R.				35					
Oakland ave., NW. from Columbia road.									
Columbia road, from 14th to 20th extended.									
Garfield ave., NW. Columbia road.	61								
Clifton, 13th to 14th extended.									
Chapin, 14th to 15th extended.	5								
Whitney ave., 7th to 9th extended.		27							
Park, west 14th extended.			44	2					
Roanoke, bet. 13th and 14th extended.									
Rosedale, bet. 15th and 16th, Benning's rd.									
Benning's road, opp. Graceland Cemetery.									
Washington Circle.	47				5		1		
Iowa Circle.									
Dupont Circle.				4					
Scott Circle.									
Mt. Vernon Place, north side K, 7th and 9th									17
Reserv'n cor. 24th, Land N. H. ave. NW.									
Reserv'n cor. 17th and T and N. H. ave. NW.									
Reserv'n SE cor. Pa. ave., 9th and La. ave. NW.									
Reserv'n cor. N. H. ave., 17th and S NW.									
Reserv'n cor. 20th, Q and Conn. ave. NW.									
Reserv'n bet. 8th and 9th and L and M SE.									
Reserv'n cor. 7th and 6th and Pa. ave. NW.									
Reserv'n cor. N. J. ave. and 1st and F NW.									
Reserv'n cor. N. J. ave. and 1st and G and H.									
Reserv'n cor. La. ave. and 6th and D NW.									
Reserv'n cor. Ind. ave. and D and 3d NW.	1								
Reserv'n front of Center Market.									
Reserv'n cor. 2d and Mass. ave. NE.									
Reserv'n cor. 2d and B and Canal SW.									
Reserv'n cor. N. C. ave., B and 7th SE.									
Twining School yard.	17								
High School yard.									
Curtis School yard.									
Abbott School, reservation 5th and N. Y.									
ave. and L NW.			6						
Wallach School.	7				9		2		
College (near Howard University).	15								
Howard ave. (near Howard University).	11								
Lincoln ave. (near Howard University).	2								
Monroe, Uniontown.	7		3						
Jefferson, Uniontown.							1		9
Polk, Uniontown.	53								
Pleasant, Uniontown.	24			15					
Nichols ave., Uniontown.	14					6			21
Good Hope road, Uniontown.									
Jackson, Uniontown.	20			1			1		
Filmore, Uniontown.	13			11		14			
Washington, Uniontown.	19			6		10			
Harrison, Uniontown.	15								

of the parking commission, the varieties and location, to July 1, 1887—Continued.

European-American elm, mixed. <i>Ulmus alata.</i> <i>americana.</i> <i>fulva.</i> <i>campestris.</i>	Carolina poplar, mixed. <i>Populus monilifera.</i> <i>quadrangulata.</i>	Tulip tree. <i>Liriodendron tulipifera.</i>	Grecian poplar. <i>Populus græca.</i>	Turkistan poplar. <i>Populus</i> (species from Tur- kistan).	Catalpa, mixed. <i>Catalpa kœmpferi.</i> <i>bignonioides.</i>	Willow, laurel-leaved. <i>Salix pentandra.</i>	Ginkgo. <i>Salisburia adiantifolia.</i>	Oak. <i>Quercus</i> (in variety).	Horse chestnut. <i>Æsculus hippocastanum.</i>	Kentucky coffee. <i>Gymnocladus canadensis.</i>	Honey locust. <i>Gleditsia triacanthus.</i>	Aspen poplar. <i>Populus alba.</i>	Paper mulberry. <i>Broussonetia papyrifera.</i>
	37		30										
		53	43										
	1												
							82		40			8	
	56								7		1	0	
	2											5	
												2	
	53										8		
											20		
8			60										
			6										
		57											
		35											
		10								16			
								2					
								3					
								6		2			
								3					
								9					
7								0					
								16					
4						4		22					
								9					
57						14	1	11					
0								1			2		3
				4		4	2	1					
	58												
	20												
		10					2	2					
								2					
	4											35	
	9				14								
	25												
			23										
	33											14	
	12											34	
	13											4	
	12				6							14	

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Trees in Washington under control of parking commission, variety, location, etc.—Cont'd.

RECAPITULATION.

Common name.	Botanic name.	Number.
Soft maple.....	<i>Acer dasycarpum</i>	23,305
Sugar maple, mixed.....	<i>saccharinum</i>	832
Norway maple.....	<i>platanoides</i>	2,786
Scarlet maple.....	<i>rubrum</i>	864
Sycamore maple.....	<i>pseudo platanus</i>	422
Ash-leaved maple.....	<i>negundo</i>	4,043
American linden.....	<i>Tilia americana</i>	5,121
European linden.....	<i>europa</i>	409
American ash, mixed.....	<i>Fraxinus americana</i>	967
Buttonwood, mixed.....	<i>Platanus orientalis</i>	4,579
	<i>occidentalis</i>	
European-American elm, mixed.....	<i>Ulmus alata</i>	5,365
	<i>americana</i>	
	<i>fulva</i>	
	<i>campestris</i>	
Carolina poplar, mixed.....	<i>Populus monilifera</i>	7,050
	<i>quadrangulata</i>	
Tulip tree.....	<i>Liriodendron tulipifera</i>	1,712
Lombardy poplar.....	<i>Populus fastigiata</i>	43
Grecian poplar.....	<i>græca</i>	454
Turkistan poplar.....	(species from Turkistan)	7
Catalpa, mixed.....	<i>Catalpa kempferi</i>	854
	<i>bignonioides</i>	
Willow, laurel-leaved.....	<i>Salix pentandra</i>	78
Ginkgo.....	<i>Salisburia adiantifolia</i>	145
Sweet gum.....	<i>Liquidumber styraciflua</i>	73
Oak.....	<i>Quercus</i> (eight species)	273
Horse chestnut.....	<i>Æsculus hippocastanum</i>	244
Kentucky coffee.....	<i>Gymnocladus canadensis</i>	160
Honey locust.....	<i>Gleditschia triacanthus</i>	1,206
Aspen poplar.....	<i>Populus alba</i>	1,863
Ailanthus.....	<i>Ailanthus glandulosa</i>	50
Cork elm.....	<i>Ulmus racemosa</i>	15
Paper mulberry.....	<i>Broussonetia papyrifera</i>	62
Cypress, mixed.....	<i>Taxodium distichum</i>	24
	<i>sinense</i>	
Zelkova tree.....	<i>Planera acuminata</i>	5
	<i>Philodendron amurense</i>	3
Total number of trees in streets and avenues of Washington		63,014

Deduct evergreens 60, shrubs 22; total, 82; which will leave 63,014.

APPENDIX 4.

ANNUAL REPORT OF INSPECTOR OF BUILDINGS.

ENGINEER DEPARTMENT,
OFFICE OF INSPECTOR OF BUILDINGS.

SIR: I have the honor to transmit herewith my annual report, covering the transactions of this branch of your department during the fiscal year ending June 30, 1887, together with the recommendations and estimates for the fiscal year 1888:

Permits issued for buildings, etc., from July 1, 1886, to June 30, 1887.

Description.	Number.	Estimated value.
Brick dwellings	1,885	\$4,581,500
Brick stables, private	95	113,822
Brick stables, livery	0	19,900
Brick workshops, etc	15	26,500
Brick stores	22	162,450
Brick office buildings	23	339,207
Brick churches	5	125,500
Brick school buildings	7	81,200
Brick warehouses	18	88,010
Brick boiler-houses	3	4,300
Brick repairs and additions	652	1,095,246
Frame dwellings	366	351,260
Frame stables	11	2,550
Frame repairs	622	89,866
Frame removals	21	3,885
Frame stores	3	950
Frame sheds	345	20,478
Park railings	555	.....
Awnings	92	.....
Total	4,746	7,109,624

Linear feet of vault, 1,290½.

There were issued during the year, since March 26, 1887, at which time the collection of these fees was placed in this office, 364 permits for use of water for building purposes, amounting to \$847.23.

The fees from building permits amounted to \$9,783.

The total revenue for the year amounts to \$10,630.23, an excess over the preceding year of \$2,059.23.

By reference to the above statement it will be seen that there have been erected 2,251 dwellings; buildings of all classes, 2,456; repairs and additions, 1,643, being 239 buildings and 83 repairs and additions in excess of the preceding year. The excess in value amounts to \$1,826,352.

This is far in advance of any previous year, and the large excess in value, compared with the increased number, shows that not only is the increase in numbers, but there is also a decided improvement in the character and class of buildings.

There have been 311 notices served for reconstruction of dilapidated and dangerous buildings, and 278 notices served for violation of the regulations.

There have been condemned and ordered taken down 49 dilapidated and dangerous buildings and 10 insufficient party-walls. There have been 21 permits issued for the removal of wooden buildings. Since the numbering of houses has been placed in this office I have furnished a number for each building when the permit was issued, and have examined, and ordered where found in confusion, 62 numbers to be changed.

On information from this office (independent of those by the police) 17 cases have been prosecuted in the police court for violation of the regulations. Five of these cases have been appealed; the remainder paid the fines imposed.

From the above statement it is clear that the work required of this office can not receive, with but one assistant outside on city work, the proper supervision, especially as the greater portion of his time is taken up in answer to complaints, and my time is so far occupied, being required to attend to the business of the office from four to five hours each day, and when outside to the construction and repair of District buildings, that I can only supervise the construction of the larger class of buildings, in addition to the other work which I must do on account of the risk attending the construction of these larger structures, leaving the great number of ordinary sized buildings to the one assistant, which it is impossible for him, with his other work, to properly attend to.

This work is of the greatest importance, as it is intended to control the erection of the buildings both as to strength of construction and safety from fire. I must, therefore, most earnestly request that an appropriation be made for two more competent assistants. When I took charge of this office there were constructed the first year 511 new buildings as against 2,456 this year. The revenue of the office was \$3,620 as against \$9,743 this year, and there has not been a single assistant inspector allowed since that time, notwithstanding the great advance in the quantity of buildings erected. It is of the greatest importance to the building community that there should be the proper supervision given to the construction of all buildings. In addition to the work of inspecting buildings, the regulating of terraces, parkings, parking railings, and the numbering of houses, as also the construction and repair of all public-school buildings, have been placed in this office. The latter work alone, which was previously done outside, has been each year a saving to the District of from \$5,000 to \$6,000 per annum.

When you consider the amount of work required of this office, there is no department of the District so deficient in force to attend to its business, and none so poorly paid as those now employed for the knowledge and work required of them.

The order requiring all parking gates now opening outward to be reversed to open in, and also to have all open areas properly inclosed, I have not, for want of assistance (there being several thousand of them), been able to have attended to. Both are of great importance, as the District would be liable for damages in case of an accident by falling into an open area, or injury caused by a gate opening over the sidewalk.

Comparative increase in number and value of buildings erected since the formation of the present form of government for the District of Columbia.

June 30—	Number of new buildings.	Number of repairs.	Fees.	Value.
1879	511	1,108	\$3,620.00	\$1,735,715
1880	680	983	3,577.50	2,129,978
1881	680	819	3,237.00	1,951,970
1882	699	820	3,531.00	2,468,986
1883	946	1,023	4,070.00	3,331,963
1884	1,194	1,305	5,712.50	3,829,682
1885	1,677	1,155	6,092.00	4,007,234
1886	2,194	1,560	8,571.00	5,283,272
1887	2,456	1,643	9,783.00	7,109,624
Total	11,017			31,848,424

DISTRICT BUILDINGS.

There have been erected during the fiscal year, upon plans prepared in this office, two eight-room school buildings, and an addition of two rooms to the school building at Tennallytown. The amount appropriated for new buildings, sites, and furniture was \$75,000, expended as follows, viz:

New school buildings.

NORTHEAST CORNER TWENTY-THIRD AND M STREETS NORTHWEST.

Cost of site	\$13,574.88
Amount of contract	24,800.00
Extra depths of foundations:	
139 yards excavating, at \$1 per yard	139.00
20,046 bricks, at \$17 per M	340.78
Iron beams for carrying walls over closets	89.75
Raising belfry	85.00
Iron beams	28.50
Drawing materials	12.20
Printing specifications	25.20
Superintendence	824.00
Heating	1,929.00
Recording deed	1.50
Materials and labor setting furnaces	310.51
Surveying	7.50
Painting blackboards	24.00
Brushes for blackboarding	2.50
Silicate slating for blackboards	14.40
	42,208.72

B STREET, BETWEEN TWELFTH AND THIRTEENTH STREETS NORTHEAST.

Amount of contract No. 740	\$22,800.00
Heating	1,350.00
Pay-roll, constructing sewer	292.74
Drawing materials	12.20
Printing specifications	36.48
Superintendence	892.00
Materials and labor setting furnaces	179.84
Painting blackboards	24.00
Sodding 294 yards terrace, at 20 cents	58.80
Brushes for blackboards	2.50
Silicate slating	14.40
Stone coping for terrace	60.00
Iron railing for terrace	75.25
	25,798.21

CONSTRUCTING TWO ROOMS AT TENNALLYTOWN.

Amount of contract No. 767	\$3,000.00
Printing specifications	13.74
Brushes for blackboarding	2.50
Silicate slating	14.40
Painting exterior	121.00
	3,151.64

SUMMARY.

Corner Twenty-third and M streets northwest (Weightman)	\$42,208.72
B street, between Twelfth and Thirteenth streets northeast (Maury)	25,798.21
Two rooms at Tennallytown	3,151.64
Balance reserved for furniture	71,158.57
Total amount appropriated	3,841.43
	75,000.00

The appropriation usually made of \$25,000 for construction of eight-room buildings is insufficient to properly construct and fully complete them. The buildings now on hand were strongly competed for and each taken by contractors on a close margin, and still it was found necessary to cut off the towers and dispense with the fire-proof stairways. I must therefore request that in making an appropriation for similar buildings the amount be not less than \$30,000. The eight-room building is the most economical structure, especially as compared with the twelve-room buildings, as the cost of two is very little in advance of one twelve-room building, and better adapted, as the ascent to the third story of a three-story building is, in my opinion, very injurious to the female portion of the pupils.

The "dry-closet system," introduced into one of the new buildings this year, has not been sufficiently used to speak positively of its merits, but it is my opinion that it will not only prove satisfactory, but economical, especially as it will not need repairs, which the old plumbing, water, and sewer systems require.

POLICE STATIONS.

The appropriation for the erection of brick stables, concreting yards, etc., at sixth and seventh police precincts was expended as follows, viz:

BRICK STABLE, ETC., SIXTH PRECINCT.

Amount of contract No. 734	\$1,350.00
Inserting door and window	38.36
Paving and concreting cellar	295.80
Removing coal from cellar	13.12
Printing proposals	1.82
Setting stone steps	302.75
Ventilating sky-light	116.00
Gas-fixtures	2.00
Extra plumbing	8.95
Hanging three pairs blinds	14.00
Concreting yard	156.00
Total	2,298.80

BRICK STABLE AND ADJACENT ROOM, SEVENTH PRECINCT.

Amount of contract	\$2,223.00
Paving and concreting cellar	268.80
Removing coal from cellar	6.51
Printing proposals	1.82
Ventilating sky-light	116.00
Gas-fixtures	5.00
Setting stone steps	241.91
Building fence, etc.	180.01
Whitewashing fence	12.00
Concreting yard	145.00
.....	3,200.05

SUMMARY.

Stable at sixth precinct	\$2,298.80
Stable at seventh precinct	3,200.05
Balance	1.15
Amount appropriated	5,500.00

RECONSTRUCTING CELLS IN THIRD PRECINCT.

Setting five (5) water-closets	\$364.00
Brickwork for closets	85.00
Setting five (5) C. I. door-frames	125.00
Whitewashing cells	3.50
Painting cells	21.00
Balance	1.50
Amount appropriated	600.00

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 583

ERECTING AND FURNISHING ONE HOSPITAL WARD AT WASHINGTON ASYLUM.

Amount of contract No. 737	\$3, 295. 00
Gas-fixtures	10. 00
Balance for furniture	195. 00
Amount appropriated	3, 500. 00

WORKSHOP AT INDUSTRIAL HOME SCHOOL.

Amount of contract No. 764	\$3, 423. 00
Extra depths of foundations:	
2,000 bricks	34. 00
Excavating	3. 00
Constructing two flues	40. 00
Amount of appropriation	3, 500. 00

The appropriation for repairs and improvements to school buildings and grounds has been expended as follows, viz:

First division	\$2, 186. 11
Second division	1, 863. 68
Third division	4, 602. 34
Fourth division	1, 430. 30
Fifth division	2, 449. 82
Sixth division	3, 027. 49
Seventh division	1, 909. 04
Eighth division	2, 088. 99
High school	373. 12
Balance	69. 11
Amount of appropriation	20, 000. 00

The amount (\$20,000) appropriated for repairs and improvements to school buildings and grounds was not sufficient to allow any improvement to the grounds. I must therefore ask that the sum of \$35,000 be appropriated for the next year. More especially is it necessary on account of the increased number of school buildings erected. In the last eight years there have been built, with those now on hand, thirty school buildings, and the annual appropriations for repairs have not in that time been increased. The High, Henry, Force, Gales, Brent, Garnet, Dennison, Weightman, Maury, Sumner, and Wallach annexes, Bradley, New Building on G street southeast, and the one on Fifth street northeast, all need the parkings to be inclosed and the terraces at several of them graded and sodded.

REPAIRS TO STATION-HOUSES.

The appropriation for repairs to station-houses has been expended as follows, viz:

Appropriation	\$2, 000. 00
Repairs, etc	1, 996. 21
Balance	3. 79

These houses are now in a fair state of repair. I would recommend an appropriation of \$2,000 for the next fiscal year; also an additional appropriation of \$400 for repairs to the police court building. For improvement to station-houses I have furnished estimates to the chief of police which are embodied in his report. It is a necessity that the sum of \$400 be appropriated for repairs to the police court, especially as there was no fund appropriated for that purpose the present year.

584 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

REPAIRS TO ENGINE-HOUSES.

There has been expended in repairs to engine-houses the sum of \$2,991.44.

Appropriation.....	\$3,000.00
Repairs, etc.....	2,991.44
Balance.....	8.56

I would request that the appropriation for these buildings be increased the next fiscal year to \$3,500, as, on account of the nature of their occupancy, it is necessary for comfort and efficiency that they be placed and kept in a complete and comfortable condition.

REPAIRS TO MARKET-HOUSES.

The repairs to these buildings were paid for out of the appropriation of \$5,000 for fuel, ice, gas, insurance, repairs, etc., District offices and markets.

Georgetown Market.....	\$59.65
Eastern Market.....	81.25
Western Market.....	66.00
	206.90

The Western and Eastern Markets are very much in need of repair, and to put them in condition for comfortable occupancy it will require an appropriation of \$1,000. To the building now occupied for District offices, by the lease, the District is required to make necessary interior repairs, for which an allowance of at least \$400 should be made in the account for care of the building. The building being now placed in my charge, I would recommend the continuance of the present janitor and the two assistants. As this building is fitted with an extensive steam-heating apparatus, it will require a competent engineer to take charge of it, and to employ a thoroughly competent engineer an appropriation should be made of \$900 per annum.

In conclusion permit me, sir, to acknowledge the uniform confidence which this branch of your department has received from you in all its transactions.

Very respectfully,

THOS. B. ENTWISLE,
Inspector of Buildings.

WM. LUDLOW, U. S. A.,
Colonel of Engineers, and Commissioner District of Columbia.

APPENDIX 5.

REPORT OF THE INSPECTOR OF PLUMBING.

JULY 1, 1887.

COLONEL: I have the honor to report the following operations of this office for the year ending June 30, 1887:

Nineteen hundred and twenty-four plans showing arrangement of plumbing fixtures and lines of drain-pipes within the buildings have been submitted to me, and certificates of approval have been issued, generally without material change, showing that the improved methods

are appreciated by the architects and house-owners. Four hundred and six plans have been submitted where no plumbing fixtures or drain connections were shown within the buildings, the plumbing usually consisting of water-closet and hydrant in the yard, having connections with the public sewer in the alley.

Such houses, when built upon ground which is free from moisture or when protected by a free use of Portland cement from ground air and dampness, make healthful abodes, and the poor of this city are favored above their fellows of much larger cities in having separate tenements of this description. This makes 2,390 new buildings for which plans have been approved by this office and in which the plumbing and drainage work has been completed. A careful inspection of this work was made, and as many as three visits were paid to each house during the progress of the work.

Two hundred and ninety-one inspections have been made of plumbing in old houses, covering the long list of defects in terra-cotta drains; in broken traps, or absence of traps; in miniature ventilating-pipes, or the absence of all ventilation; in badly jointed soil and waste pipes, showing dishonest practices to have been common a few years ago. Many fixtures have been condemned and modern appliances recommended.

On the 6th of April, 1887, the honorable Commissioners of the District of Columbia appointed a board to revise the regulations governing plumbing and house-drainage, and also for the examination of plumbers making application for registration, and ordered that after September 1st no person should be allowed to engage in the plumbing business or do any plumbing work whatsoever relating to the water supply or drainage of any premises except a master plumber who shall have duly registered; and no plumber should be allowed to register until he had passed a satisfactory examination by the board constituted for that purpose, and had furnished an acceptable bond in the sum of \$500. The board, as constituted by authority of the Commissioners, consisted of the following members: Samuel A. Robinson, inspector of plumbing (chairman); Dana C. Barber, inspector of the water department (secretary); H. F. Hayden, superintendent of the water department; R. G. Campbell, president of the regular Plumbers' Association of this District; and A. S. Dent, president of the Master Plumbers' Mutual Protective Association. Until July the 1st weekly meetings were held by the board for the examination of candidates for registration as employing plumbers, and at this time the work is progressing, with a promise of weeding out some incompetent and raising the standard of all employers. The candidate's previous good or bad record must somewhat influence the action of the board in its final judgment, as what is most desired, after a show of competency has been made, is an appreciation of the high moral obligation resting upon every employing plumber to do his work honestly for the protection of the health of those who engage his services. The examinations have been chiefly oral, some simple blackboard sketching being the only exception, and the examination usually lasts half an hour, though sometimes extended for an hour or more. In some cases those who failed to pass a satisfactory examination have been given an extension of time to prepare for another hearing before the board, and upon final action it is presumed that every deserving employer will be enabled to register. It is expected that great good will come from this action of the honorable Commissioners, and the best element in the trade appear to approve of the order. It is well for all those who engage in this important business to have, in

REPAIRS TO ENGINE-HOUSES.

There has been expended in repairs to engine-houses the sum of \$2,991.44.

Appropriation.....	\$3,000.00
Repairs, etc.....	2,991.44
Balance.....	8.56

I would request that the appropriation for these buildings be increased the next fiscal year to \$3,500, as, on account of the nature of their occupancy, it is necessary for comfort and efficiency that they be placed and kept in a complete and comfortable condition.

REPAIRS TO MARKET-HOUSES.

The repairs to these buildings were paid for out of the appropriation of \$5,000 for fuel, ice, gas, insurance, repairs, etc., District offices and markets.

Georgetown Market.....	\$59.65
Eastern Market.....	81.25
Western Market.....	66.00
	206.90

The Western and Eastern Markets are very much in need of repair, and to put them in condition for comfortable occupancy it will require an appropriation of \$1,000. To the building now occupied for District offices, by the lease, the District is required to make necessary interior repairs, for which an allowance of at least \$400 should be made in the account for care of the building. The building being now placed in my charge, I would recommend the continuance of the present janitor and the two assistants. As this building is fitted with an extensive steam-heating apparatus, it will require a competent engineer to take charge of it, and to employ a thoroughly competent engineer an appropriation should be made of \$900 per annum.

In conclusion permit me, sir, to acknowledge the uniform confidence which this branch of your department has received from you in all its transactions.

Very respectfully,

THOS. B. ENTWISLE,
Inspector of Buildings.

WM. LUDLOW, U. S. A.,
Colonel of Engineers, and Commissioner District of Columbia.

APPENDIX 5.

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addition to their skill and experience as operative plumbers, an intelligent appreciation of physical laws of hygiene and a full appreciation of the moral side of their duties, and it is hoped this effort of the Commissioners will eventually receive the full support of every respectable plumber in this District.

In my last report I referred to the examination I had made of the plumbing and drainage of the old school buildings, and noted some of the more serious defects found in their construction. Since that time many improvements have been made in accordance with my recommendations. An appropriation of \$15,000 was asked for to do the work of reconstructing the plumbing in all these buildings, and \$10,000 was allowed. By judicious management on the part of the inspector of buildings all those schools having plumbing fixtures in the basement have been remodeled, and, as I suggested in my report, the water-closets and urinals have been placed outside of the building where there was sufficient yard space for the purpose. This removes the great source of contamination of air in the school-rooms. In the case of four old school buildings the "dry-closet system" was adopted, but not until evidence was given to the Commissioners that the system was satisfactory in every respect. Contracts have also been made for the "dry closets" to be placed in eight of the new schools now in course of erection.

Nothing has been done to remedy the deplorably defective condition of the drainage in the buildings occupied by the General Government. Every effort has been made by this office and those in authority in the Departments to bring about a reconstruction of the plumbing work, but Congress seems not to appreciate the great importance of giving relief to those public servants who have so long been compelled to breathe this polluted atmosphere. The result must be fatal. "The evil is allowed to exist because its first manifestations are not in a form that appalls and terrifies. Its approach is slow and insidious. At length the frame racked with pain, a mind debilitated, unbalanced, or diseased, powers of usefulness destroyed, are the fatal results of a few years spent in the poisonous atmosphere of our Government buildings. These statements are no exaggeration of the evil, for exaggeration is impossible."

A few of our leading hotels have made changes in the plumbing fixtures, with partial ventilation, which somewhat improves their sanitary condition, but none have as yet adopted a system entirely satisfactory, or that would entitle them to a certificate of approval from this office.

In my last report I referred with pleasure to the faithful and intelligent services of my assistant, Mr. J. T. Shedd; but the salary attached to the office was not sufficient to hold him in public service, and his resignation was offered and accepted, since which time the office has been acceptably filled by Mr. John Murphy, who has had long experience as foreman in private employment.

My official relations with the officers of the engineer and building departments continue to be satisfactory and have always been cordial, and I gladly make acknowledgment of the courteous treatment I have received from your office.

Very respectfully, your obedient servant,

SAM'L A. ROBINSON,
Inspector of Plumbing.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

APPENDIX 6.

REPORT OF SUPERINTENDENT OF LAMPS AND GAS.

OFFICE OF THE SUPERINTENDENT OF LAMPS AND GAS,
August 15, 1887.

COLONEL: I have the honor to submit the annual report of the operations of this office and the expenditures incurred during the fiscal year ending June 30, 1887, showing a total expenditure of \$104,787.59. Of this amount \$1,879.92 was refunded by the Baltimore and Potomac and Baltimore and Ohio railroad companies for the maintenance of lamps along their tracks through the city, leaving a net expenditure of \$102,907.67. During the past year the street lamps have been lighted 2,600 hours, as required by law. Twenty-four new lamps have been erected in various parts of the city. A portion of those lamps were paid for by citizens, as the appropriation was inadequate to meet the demands. A large portion of the city still remains unlighted, and the demands for lamps are constantly increasing, as the city is being rapidly built up towards the suburbs. In many instances the gas companies have no mains in close proximity to suburban villages or parts thereof, and claim they would not be justified in making any lengthy extension in order to supply lamps. Provision might be made to meet the demands from these sections by the erection of oil or gasoline lamps similar to those now in use on the suburbs of other cities. About 200 of these lamps would be required.

At the beginning of the year a contract was entered into with the United States Electric Light Company for maintaining 43 2,000-candle-power arc lights.

During the year several cases have been reported of persons extinguishing lamps (during the warm weather) after they had been lighted. These cases would lead to the inference that the lamps had not been lighted, whereas the cause of non-illumination was due to something entirely beyond the control of either gas company. Careful attention has been paid, in order that no deduction should be made from the bills in these cases. The police have no authority to make arrests, as the law is silent in regard to it.

Expenditures for lamps and gas during the year ending June 30, 1887.

Gas for lamps in Washington.....	\$80,771.52
Gas for lamps in Georgetown.....	8,209.70
Electric lamps in Washington.....	9,924.00
Cost of erecting lamps in Washington and Georgetown.....	159.78
Cost of removing and re-erecting.....	223.30
One hundred and two lamp-posts, at \$6.90.....	703.80
Twenty-two street designations, at 30 cents.....	6.60
	99,998.70
Amount appropriated	100,000.00
Amount expended.....	99,998.70
Balance on hand.....	1.30
Number of lamps June 30, 1886.....	4,622
Number of lamps erected 1886-'87.....	24
Total number of lamps June 30, 1887.....	4,646
Number of lamps not lighted June 30, 1887.....	99
Number of lamps lighted June 30, 1887.....	4,547

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Expenditures for lamps and gas during the year ending June 30, 1887—Continued.

Amount expended for street lighting	\$99,998.70
Gas for District office	706.49
Gas for District markets	563.61
Gas for District schools	844.68
Gas for District stables	3.33
Gas for District police court	88.52
Gas for District police department	1,245.19
Gas for District fire department	682.42
Gas for District health department	.54
Gas for District pump houses	276.20
Gas for District Washington Asylum and work-houses	377.91
Total	104,787.59

Very respectfully,

H. O. BAILEY,
Superintendent of Lamps and Gas.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

APPENDIX 7.

REPORT OF THE INSPECTOR OF GAS AND METERS.

ILLUMINATING POWER AND PURITY.

The illuminating power and purity of the gas supplied by the Washington Gas-Light Company from June 24, 1886, to June 23, 1887, was as follows:

Average illuminating power during the year	candles..	17.23
Highest illuminating power during the year	do....	19.78
Lowest illuminating power during the year	do....	13.49

On January 11 the maximum candle power was determined.

On June 18 the minimum candle power was determined.

Average quantity of ammonia in 100 cubic feet during the year	grains..	1.92
Highest quantity of ammonia in 100 cubic feet during the year	do....	6.85
Lowest quantity of ammonia in 100 cubic feet during the year	do....	.17

On July 27 the maximum quantity of ammonia was found.

On September 23 the minimum quantity of ammonia was found.

Average quantity of sulphur in 100 cubic feet during the year	grains..	10.56
Highest quantity of sulphur in 100 cubic feet during the year	do....	26.48
Lowest quantity of sulphur in 100 cubic feet during the year	do....	5.13

On November 12 the maximum quantity of sulphur was found.

On July 13 the minimum quantity of sulphur was found.

DEFAULTS IN CANDLE POWER AND PURITY.

On thirteen occasions the illuminating power of the gas furnished by the Washington Gas-Light Company was found to be less than 16 candles.

On five occasions the quantity of ammonia found in each 100 cubic feet exceeded the 5 grains allowed.

On nine occasions the quantity of sulphur found in each 100 cubic feet exceeded the 20 grains allowed.

The pressure of the gas supplied by this company as recorded in inspector's office, corner Tenth and D streets, "Post Building," during the

hours that street lamps were lighted from July 1, 1886, to June 30, 1887, was as follows :

Average pressure.....	inches..	1.13
Highest pressure.....	do....	2.30
Lowest pressure.....	do....	.58

On July 26 the maximum pressure was recorded.

On April 29 the minimum pressure was recorded.

The illuminating power and purity of the gas supplied by the Georgetown Gas-Light Company from June 24, 1886, to June 23, 1887, was as follows :

Average illuminating power during the year.....	candles..	16.87
Highest illuminating power during the year.....	do....	18.89
Lowest illuminating power during the year.....	do....	14.84

On September 15 the maximum candle power was determined.

On December 13 the minimum candle power was determined.

Average quantity of ammonia in 100 cubic feet during the year.....	grains..	2.04
Highest quantity of ammonia in 100 cubic feet during the year.....	do....	5.03
Lowest quantity of ammonia in 100 cubic feet during the year.....	do....	.42

On June 25 the maximum quantity of ammonia was found.

On January 4 the minimum quantity of ammonia was found.

Average quantity of sulphur in 100 cubic feet during the year.....	grains..	13.60
Highest quantity of sulphur in 100 cubic feet during the year.....	do....	27.05
Lowest quantity of sulphur in 100 cubic feet during the year.....	do....	4.79

On November 2 the maximum quantity of sulphur was found.

On September 21 the minimum quantity of sulphur was found.

DEFAULTS IN CANDLE POWER AND PURITY.

On seven occasions the illuminating power of the gas furnished by the Georgetown Gas-Light Company was found to be less than 16 candles.

On one occasion the quantity of ammonia found in each 100 cubic feet was in excess of the 5 grains allowed.

On eleven occasions the quantity of sulphur found in each 100 cubic feet exceeded the 20 grains allowed.

The pressure of the gas supplied by this company as recorded in inspector's office, corner Second and High streets, Georgetown, during the hours that street lamps were lighted, from July 1, 1886, to June 30, 1887, was as follows:

Average pressure.....	inches..	1.42
Highest pressure.....	do....	2.45
Lowest pressure.....	do....	.87

On January 26 the maximum pressure was recorded.

On February 12 the minimum pressure was recorded.

INSPECTION OF METERS.

Thirteen hundred and sixty-nine meters have been inspected and proved during the fiscal year ending June 30, 1887, for the Washington and Georgetown Gas-Light Companies and for consumers of gas.

The results of inspection were as follows: One hundred and twenty registered fast average error 3.89 per cent.; 40 registered slow average error 5.64 per cent.; and 1,207 registered within the limits allowed, namely, 2 per cent. either way, and 2 did not register the gas flowing through them.

One hundred and seventy of the above described meters were inspected and proved on complaint; 157 were complained of by consumers of gas; 65 registered fast against the consumer average error 4.08 per cent.; 27 registered slow against the companies average error 4.69 per cent., and 65 registered within the limits allowed.

Thirteen were complained of by the gas companies, 7 registered fast average error 4.44 per cent.; 4 registered slow average error 10.68 per cent.; 1 registered within the limits allowed, and 1 did not register.

The sum of \$684.50 was received as fees for meter inspections, and the same was paid to the collector of the District of Columbia to the credit of the United States and District of Columbia in equal parts.

The recommendation made in annual reports of 1885-'86 that an assistant inspector of gas and meters be appointed is again respectfully renewed.

The testing of new, repaired, and complaint meters, coupled with the daily determinations of candle power and purity which are required to be made of the gas supplied by the Washington and Georgetown Gas-Light Companies, is more than one officer can discharge, and for want of assistance during the past two years the demand for sealed meters by the Washington Gas-Light Company could not be complied with, and the company were compelled to place meters in service that had not been inspected, proved, and sealed as required by law.

It is advisable, therefore, that some provision be made, so that the companies can obtain sealed meters as they need them, and that the practice of placing new and repaired meters in service that have not been inspected, proved, and sealed by the inspector as correct measures of gas be discontinued.

I again renew the recommendation made in several preceding reports that the act of Congress approved June 23, 1874, regulating gas works, should be amended so as to require, when for any purpose whatever the heads of meters that have been inspected, proved, and sealed are removed by the gas companies, meters of this description should be classed as repaired meters and brought to this office for re-inspection before again being placed in service.

The seal of the inspector is the evidence that the meter has been properly tested and proven as required by law. To admit the right of the companies to remove the head of a sealed meter and rectify whatever is wrong and return meter to service without re-inspection and sealing would be to render the law practically inoperative.

S. CALVERT FORD,
Inspector of Gas and Meters.

A.—Report of the illuminating power and purity of the gas supplied by the Washington Gas-Light Company from June 24, 1886, to June 23, 1887.

Months of the year.	*Number of observations.	Illuminating power in sperm candles.			Quantity of ammonia in 100 cubic feet.			Quantity of sulphur in 100 cubic feet.		
		Mean.	Highest.	Lowest.	Mean number of grains.	Highest number of grains.	Lowest number of grains.	Mean number of grains.	Highest number of grains.	Lowest number of grains.
July	25	17.25	18.46	16.24	3.46	6	2.42	8.71	18.15	5.13
August	26	16.68	17.96	15.23	1.92	6.85	.56	15.91	24.43	11.41
September	27	16.58	18.49	15.16	1.87	4.47	.17	13.46	25.11	6.85
October	26	17.69	18.95	16.62	.42	1.13	.17	9.97	11.87	7.30
November	25	17.21	18.66	15.49	.50	1.13	.28	12.99	26.48	8.22
December	25	17.27	18.21	16.21	.99	1.81	.28	11.12	13.70	9.36
January	24	17.76	19.78	16.66	1.24	2.26	1.41	11.17	12.20	10.04
February	26	17.63	18.64	16.36	1.90	3.57	1.19	8.19	11.64	6.16
March	24	17.60	19.96	16.44	2.53	4.22	1.70	6.96	10.96	5.82
April	27	17.44	18.92	16.30	2.65	5.35	1.36	7.32	9.59	6.16
May	24	16.79	17.55	15.62	3.54	5.44	2.21	9.95	12.60	7.53
June	26	16.91	18.63	13.49	2.08	3.57	1.19	11.06	18.49	6.85
Sum total for the year....	305	206.81	.....	.....	23.10	.....	.....	126.81	.....	.....

* Each observation consists of twenty readings on the Bunsen photometer at intervals of 1 minute.

AVERAGE FOR THE YEAR.

Illuminating power in sperm candles :

* Mean of 305 observations	17.23
Highest (January 11, 1877)	19.78
Lowest (June 18, 1887)	13.49

Quantity of ammonia in 100 cubic feet :

Mean number of grains	1.92
Highest number of grains (July 27, 1886)	6.85
Lowest number of grain (September 23, 1886)	.17

Quantity of sulphur in 100 cubic feet :

Mean number of grains	10.56
Highest number of grains (November 12, 1886)	26.48
Lowest number of grains (July 13, 1886)	5.13

REMARKS.— Defaults in candle power and purity were as follows :

On thirteen occasions the illuminating power was less than 16 candles.

On five occasions the quantity of ammonia found exceeded the 5 grains allowed.

On nine occasions the quantity of sulphur found exceeded the 20 grains allowed.

* Each observation consists of twenty readings on the Bunsen photometer at intervals of 1 minute.

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B.—Report of the illuminating power and purity of the gas supplied by the Georgetown Gas-Light Company from June 24, 1886, to June 23, 1887.

Months of the year.	*Number of observations.	Illuminating power in sperm candles.			Quantity of ammonia in 100 cubic feet.			Quantity of sulphur in 100 cubic feet		
		Mean.	Highest.	Lowest.	Mean number of grains.	Highest number of grains.	Lowest number of grains.	Mean number of grains.	Highest number of grains.	Lowest number of grains.
July	25	16.99	17.95	15.75	3.91	5.03	3.40	12.26	14.97	10.54
August	26	17.21	18.78	16.06	2.90	3.46	2.65	13.02	14.95	11.50
September	27	17.25	18.89	16.18	2.13	2.72	1.71	13.98	26.37	4.79
October	26	16.64	17.57	14.97	1.97	4.42	1.08	15.90	22.26	4.79
November	25	16.61	17.92	15.37	1.00	1.53	.79	15.15	27.05	7.53
December	24	16.66	17.89	14.84	.73	1.15	.51	14.95	18.49	6.85
January	24	17.12	17.70	16.34	.86	1.90	.42	11.51	15.75	5.82
February	26	16.72	18.26	15.96	2.97	4.67	1.83	11.27	14.86	8.22
March	24	17.02	18.44	16.11	1.52	1.87	1.13	11.84	14.38	10.34
April	27	16.87	17.44	15.24	1.43	1.87	.95	13.46	21.67	9.17
May	23	16.42	17.03	16.00	2.49	3.23	1.70	16.99	25.20	11.91
June	26	16.98	18.68	16.04	2.66	3.50	2.22	12.89	16.79	10.82
Sum total for the year ...	303	202.49			24.57			163.22		

Illuminating power in sperm candles:

*Mean of 303 observations	16.87
Highest (September 15, 1886)	18.89
Lowest (December 13, 1886)	14.84

Quantity of ammonia in 100 cubic feet:

Mean number of grains	2.04
Highest number of grains (June 25, 1887)	5.03
Lowest number of grains (January 4, 1887)	.42

Quantity of sulphur in 100 cubic feet:

Mean number of grains	13.60
Highest number of grains (November 2, 1886)	27.05
Lowest number of grains (September 21, 1886)	4.79

REMARKS.—Defaults in candle power and purity were as follows:

On seven occasions the illuminating power was less than 16 candles.

On one occasion the quantity of ammonia was in excess of the 5 grains allowed.

On eleven occasions the quantity of sulphur found was in excess of the 20 grains allowed.

*Each observation consists of twenty readings on the Bunsen photometer at intervals of 1 minute.

C.—Report of meters inspected and proved for the Washington Gas-Light Company and for consumers of gas in Washington from June 30, 1886, to June 30, 1887.

Months of the year.	Whole number of meters tested.	New meters for company.	Number fast.	Per cent. fast.	Number slow.	Per cent. slow.	Number correct.	Repaired meters for company.	Number correct.	Consumers' meters on complaint of consumers.	Number fast.	Per cent. fast.	Number slow.	Per cent. slow.	Number correct.	Consumers' meters on complaint of company.	Number fast.	Per cent. fast.
July	121	106	4	2.25	1	2.91	101	2	2	13	2	3.13	3	5.37	8			
August	90	72			2	3.45	70	15	15	3			1	4.08	2			
September	90	81					80	5	5	4	1	2.83	1	4.66	2			
October	121	114	4	4.39			110			7	1	6.16	4	5.35	2			
November	64	56	2	2.66			54	4	4	4	2	2.95			2			
December	68	49	3	3.76			46	6	6	13	7	5.24	2	9.38	4			
January	76	51	7	3.10			44	11	11	14	7	3.52	1	3.75	6			
February	90	60	7	3.16			53	3	3	26	13	6.41	3	5.88	10	1	1	4.83
March	127	105	5	3.27			100	18	18	4	2	3.51			2			
April	106	105	5	2.83			100			1	1	3.66						
May	124	112	2	2.24	1	3.45	109	6	6	6			1	2.58	5			
June	80	74	1	2.83	1	3.08	72	6	6									
	1,157	985	40	*3.04	5	*3.22	939	76	76	95	36	*4.15	16	*5.13	43	1	1	*4.83

* Average per cent.

REMARKS.—During the fiscal year ending June 30, 1887, this office inspected and proved for the Washington Gas-Light Company and for consumers of gas in Washington 1,157 meters; of this number 77 registered fast, average error 4 per cent.; 21 registered slow, average error 4.17 per cent.; 1,058 registered within the limits allowed, namely, 2 per cent. either way, and one new meter did not register the gas flowing through it.

D.—Report showing the pressure of the gas supplied by the Washington Gas-Light Company, as registered in this office from June 30, 1886, to June 30, 1887.

Month.	Mean pressure.	Maximum pressure.	Minimum pressure.
	Inches.	Inches.	Inch.
July	1.11	2.30	.66
August	1.15	1.48	.80
September	1.22	1.59	.80
October	1.22	1.71	.76
November	1.20	1.76	.84
December	1.17	1.74	.76
January	1.11	1.59	.69
February	1.08	1.45	.69
March	1.10	1.53	.73
April	1.04	1.49	.58
May	1.05	1.54	.59
June	1.18	1.62	.68

Average: Mean pressure, 113 inches; maximum pressure, July 26, 1886, 2.30 inches; minimum pressure, April 29, 1887, .58 inch.

REMARKS.—The above record represents the pressure of the gas during the hours that street lamps were lighted.

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E.—Report of meters inspected and proved for the Georgetown Gas-Light Company and for consumers of gas in Georgetown, from June 30, 1886, to June 30, 1887.

Months.	Whole number of meters tested.	New meters for company.				Repaired meters for company.				
		Total.	Number slow.	Per cent. slow.	Number correct.	Total.	Number fast.	Per cent. fast.	Number slow.	Per cent. slow.
July	19	18	1	3.33	18	.....	.....	.....	.....	.....
August	9	6	1	3.33	5	.....	.....	.....	.....	.....
September	15	12	.....	.....	12	12	1	3.11	1	16.75
October	17	.....	.....	.....	.....	13	1	3.77	.....	12
November	18	.....	.....	.....	.....	.....	.....	.....	.....	.....
December	34	24	.....	.....	24	.....	.....	.....	.....	.....
January	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	8	.....	.....	.....	.....	22	2	3.16	.....	20
April	31	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	36	.....	.....	.....	.....	31	4	3.22	2	3.70
June .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	212	60	1	*3.33	59	78	8	*3.31	3	*10.22

Months.	Consumers' meters on complaint of consumers.					Consumers' meters on complaint of company.					Consumers' meters on complaint of company that did not register.
	Total.	Number fast.	Per cent. fast.	Number slow.	Per cent. slow.	Total.	Number fast.	Per cent. fast.	Number slow.	Per cent. slow.	
July	1	.....	.....	1	3.53	.....	.....	.....	.....	.....	.....
August	1	1	3.05	.....	.....	2	.....	.....	1	21.00	1
September	1	.....	.....	.....	.....	2	.....	.....	2	4.56	.....
October	5	1	2.16	2	6.12	.....	.....	.....	.....	.....	.....
November	2	.....	.....	1	2.70	3	3	5.12	.....	.....	.....
December	10	3	5.66	1	3.58	.....	.....	.....	.....	.....	.....
January	13	11	3.79	1	4.20	2	2	3.42	.....	.....	.....
February	8	5	3.71	.....	.....	2	1	3.62	1	6.50	.....
March	8	4	3.93	.....	.....	.....	.....	.....	.....	.....	.....
April	9	3	5.18	2	7.08	.....	.....	.....	.....	.....	.....
May .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	4	1	4.62	3	2.58	1	.....	.....	.....	.....	.....
Total	62	29	*4.01	11	*4.25	22	12	6	*4.05	4	*10.68

* Average per cent.

REMARKS.—During the fiscal year ending June 30, 1887, this office inspected and proved for the Georgetown Gas-Light Company and for consumers of gas in Georgetown 212 meters; of this number 43 registered fast, average error 3.79 per cent.; 19 registered slow, average error 7.12 per cent.; 149 registered within the limits allowed, namely, 2 per cent. either way, and one did not register.

F.—*Report showing the pressure of the gas supplied by the Georgetown Gas-Light Company as registered in inspector's office on High street, from June 30, 1886, to June 30, 1887.*

Month.	Mean pressure.	Maximum pressure.	Minimum pressure.
	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
July	1.37	2.02	.99
August	1.45	1.95	1.02
September	1.40	1.95	1.09
October	1.18	1.84	.88
November	1.32	2.22	1.02
December	1.37	2.19	1.10
January	1.39	2.45	1.10
February	1.35	2.39	.87
March	1.50	2.12	1.16
April	1.48	2.07	1.20
May	1.59	2.10	1.29
June	1.70	2.08	1.19

Average: Mean pressure, 1.42 inches; maximum pressure, January 16, 1887, 2.45 inches; minimum pressure, February 12, 1887, .87 inch.

REMARKS.—The above record represents the pressure of the gas during the hours that street lamps were lighted.

APPENDIX 8.

REPORT OF THE INSPECTOR OF ASPHALT AND CEMENTS.

ENGINEER DEPARTMENT, DISTRICT OF COLUMBIA,
Washington, September 3, 1887.

COLONEL: I have the honor to submit the following report of the operations of this office since I assumed control on the 1st of June, on the resignation of my predecessor, Prof. E. J. de Smedt, and to make some suggestions for the extension of its field of work and facilities, which after several months' experience seem to me to be demanded by the necessities of a city of the size of Washington.

The reference to this office by all branches of the District government of questions involving chemical research or opinions and the general custom of designating the inspector as District chemist points to the advisability of making the official title of the office that of chemist to the District of Columbia in addition to that of inspector of asphalt and cements. In cases where testimony is to be given before the courts of a chemical nature involving neither asphalt nor cement, the appearance of the inspector as the chemist of the District, as recognized by law, is desirable.

The increasing demands upon the office compel me to ask you to recommend an appropriation of \$1,000 for fitting up of laboratory, laboratory supplies and apparatus, and other articles necessary for carrying on the investigations of the chemist. The recent transfer of the laboratory from the old building to the new necessitates new fixtures in the nature of working tables, closets, and the like, which could not be removed to the present quarters. For the increased field of investigation and control which will be subsequently mentioned, the facilities for chemical work must be correspondingly extended and eventually one or more assistants added to the office.

Hitherto the work of the office has been confined to an inspection of the materials and oversight of the manufacture and composition of the asphaltic and tar distillate residue pavements which are laid, to an inspection and test of the cements in use on public works, and to such

work of a scattered and miscellaneous character as is from time to time referred to this office, frequently in large amount, by the various branches of the Government, the water and health offices, the police department, and the coroner. It seems desirable that, in the interests of the public health, under proper regulations and in conjunction with the health officer, the chemist of the District should exercise control over some of the food supplies of the city, or at least those most liable to adulteration. Many of the larger cities of the country, and several States, have already undertaken with most beneficial results the inspection and chemical analysis of such articles of food as dairy products, spices, and the commoner groceries, and have shown that without some check of this sort the percentage of impure milk and poor food materials is enormous. My experience in investigations of foods and food adulterants in my recent position in the United States Department of Agriculture leads me to believe that, no control having been exercised in this respect in the District, we are suffering to a larger extent than is suspected from adulteration in many directions, the natural tendency being for the manufacturer of adulterated goods, when driven from a number of cities by careful chemical inspection, to seek fields where nothing of the sort exists. Milk has been found everywhere to be subject to the grossest adulteration and to need the most careful inspection. Washington is probably no exception to the rule.

I would therefore recommend for your consideration the advisability of the appointment of an assistant to the chemist, who shall act in conjunction with the health officer, under proper regulations, as an inspector of foods, or that some steps be taken to protect more especially the infant population from adulterated or impure milk, which is such a prolific source of disease and death.

I would call attention to a plan which has been elaborated for an investigation of the character of the water which normally exists in the soils of the District, and which would be found in wells which have suffered no contamination. When this has been carefully and systematically determined, the results will form a basis of comparison on which there will be no difficulty in determining when any of the numerous wells in the city become polluted or dirty. At present there are no data in existence which show what may be considered a normal and healthy well water in the District, and the immense demand by a large part of our population for the privilege of the use of wells, at least in summer, in preference for drinking purposes to the warmer and at times turbid aqueduct water, makes this subject a matter of importance.

There are at present many good wells in the District, others which can be made so by cleaning and proper arrangements for preventing the waste water from carrying surface filth into the wells, and many which analysis has demonstrated to be extremely filthy from sewage contamination. A careful examination of these wells is desirable. The aqueduct water, I am pleased to say, has never been of better quality than during the past summer.

The question of the quality of the asphalt pavements which are laid is, of course, one of the most important which comes before this office, and in the short time that the subject has been under investigation by me some results have been arrived at which seem of great interest, and which perhaps may influence you in your recommendations for another year.

The pavement which has been recently laid is known as the "coal-tar distillate." The specifications provide for a base of broken stone, 3 inches in largest dimension, over which No. 4 coal-tar distillate is

poured in the proportion of 1 gallon to the square yard; for a binder composed of broken stone, $1\frac{1}{4}$ inches in larger diameter, mixed, while heated, with 1 gallon per cubic foot of No. 4 coal-tar distillate; and for a wearing surface made of a paving cement composed of 25 per cent. asphalt and 75 per cent. coal-tar distillate mixed with "clean sharp sand and pulverized stone, of such dimensions as to pass through a quarter-inch screen," combined in the proportion of two of sand and one of stone, to 21 cubic feet of which 1 peck of dry hydraulic cement, 1 quart of flour of sulphur, and 2 quarts of air-slaked lime have been added, in the proportion of 320 pounds of paving cement to the material above mentioned, the whole being heated to about 250° F.

These elements in the wearing surface, when calculated into percentage composition, have been given me by the Barber Company as follows:

Paving cement.....	11.75
Sand	58.13
Stone.....	29.06
Cement (hydraulic)	.85
Lime	.13
Sulphur	.08
	100.00

The precise measure of advantage, if any, arising from the addition of the last three constituents has not yet been determined.

The important element in the pavement being the coal-tar, it has been carefully investigated. The crude article from the tar mains of the gas-works goes to the tar boilers or distillers, who remove the ammoniacal water it contains, the naphtha or light oils, and the creosote or heavy oils. The distillation, if carried further, removes the heavy anthracene oils and anthracene and leaves nothing but pitch in the still, which, on cooling, is a brittle, solid mass. In practice the distillation is not carried beyond the removal of the creosote oils, as there is but little or no profit in anthracene in this country and the resulting pitch is valueless. A point is therefore sought where the oils are removed to a sufficient degree to leave the resulting residue of such a consistency and tenacity as to be suitable for paving purposes.

It became apparent, early in my investigations, that with arbitrary standards such as the Nos. 2, 3, 4, and $4\frac{1}{2}$ applied to the products and no definite means of determining just what each denoted, although they were intended to correspond to tars of different densities, it would be difficult to say whether a tar in use was No. 4 or not, and as the methods of distilling the crude tar are extremely crude there seemed no certainty that products could be produced from the same crude tar which should be twice alike, or represent No. 4 twice in the same way. The tar is distilled in large cylindrical boilers, heated by a bright coal fire, from which they are somewhat protected by a fire-brick arch. It will readily be seen that the regulation of such a source of heat is difficult, and that in a liquid having as little convection as tar the outer portions near the shell of the still would be more strongly heated than those in the center. In fact they are often coked. To this, then, could be attributed one source of difficulty in producing a good tar for cement, as some of the residue had been distilled too far and other portions not far enough, the result being that parts were nearly pitch and part contained too much oil.

The second cause of variation lies in the absence of any means of telling when the distillation has gone far enough, with the certainty that the residue, when drawn from the still, will have the proper consistency

on cooling. The still-man taps off a certain amount of hot tar, cools it in water, and if it is just sticky between the teeth, considers it correct for No. 4, or paving tar; but the results do not always reach the expectation, as may be seen by comparison of a large number of No. 4 tars now in my office, which have been delivered to the contractors during the past summer, varying in consistency from density such that at 70° F. they could with difficulty be impressed with the finger to a degree of liquidity which would make the tar extremely sticky and permit it to flow quite readily at that temperature. Naturally, such variations are not consistent with making a wearing surface which shall be of uniform composition and conform exactly to the requisitions of the carefully calculated formula. The actual variations in the tars as supplied the contractor have been arrived at by careful distillation analyses of several samples, results of three of which, and of the crude tar, are here given:

Analyses of crude gas tar and of hard and soft paving tars.

	No. 32, crude tar.	No. 17, soft tar.	No. 18, soft tar.	No. 19, medium tar.	No. 21, hard tar.
Water and ammonia.....	1.34	Traces.	Traces.	Traces.	Traces.
Light oils, naphtha, under 140°.....	4.36		.86	.13	.80
Naphthalene oils (to naphthalene), 140° to 270° C ..	12.05	.37	4.08	1.43	1.90
Creosote oils (naphthalene-anthracene), 200° to 270° C ..	10.71	7.18	8.68	11.89	4.80
Anthracene oil, 270° to 320°.....	17.27	4.77	16.72	11.09	
Anthracene, 320° and higher.....	Cokes.	18.51	12.63	Cokes.	24.80
Pitch and permanent gases, by difference.....	31.06	44.50	32.20	48.03	35.06
Sooty matter.....	23.21	24.58	24.83	27.43	32.64
Ash.....		.09			.10
	100.00	100.00	100.00	100.00	100.00

It will be noticed that three elements enter into the question of whether the tar is hard or soft: First, the amount of volatile matter left in the tar; second, the amount of sooty matter; and third, the amount of pitch. The worst element is of course the sooty material, which has been found in unexpectedly large amount in the tars in use during the past summer, exceeding 30 per cent. and not falling below 20. It was at first doubtful whether its presence was due to a charring in the stills of the tar-boiler, or whether it was originally present in the tar as supplied by the gas-works. Reference to the analysis of the crude tar shows that the latter is the case, the specimen happening to be a very bad one. It is therefore impossible for the distillers to avoid this difficulty, which can only, if at all, be corrected at the gas-works. To what the presence of so much carbonaceous matter, resembling lamp black or soot in appearance and feeling, is due is uncertain, but it seems probable that it arises from the very high temperatures in use. I am unable to learn whether, before the practice of forcing the heat was introduced, the tars were of better quality, but find that one authority in England determined the presence of 23.54 per cent. of a similar substance, which had a composition of carbon 91.92 per cent., hydrogen 3.1 per cent., ash .4 to .9 per cent., in a tar distilled till the oils below 1.120 specific gravity had come over. This hardly equals the amounts we have found as the English tar was distilled further, but agrees with our material in composition. The presence of this substance is a serious drawback to the production of a good pavement under formulæ involving the use of coal-tar residues as a paving cement. It possesses no tenacity and leads to the disintegration of the material in cold weather. The larger or smaller

amount of volatile matter depends apparently on the attempts of the stillman to regulate the proportions in relation to the pitch and soot so as to produce a residuum of proper consistency. It should contain as little naphthaline as possible, which appears in the lower fractions and which is injurious to the quality of the tar as a cement. The hard tar, No. 21, it will be noticed, is comparatively free from low-boiling oils and at the same time contains much soot, to both of which are due its hardness. The soft tars, 17 and 18, though similar in appearance, density, and tenacity, are very different in composition, and owe their softness to entirely different proportions of the elements of which they are composed. The analyses show the lack of uniformity in the composition of the tar paving cement and the consequent uncertainty in the concretes produced with them.

In mixing the wearing surface, in consequence of the changes in the physical character of the tar, some latitude must be allowed in the proportions used. This has extended during the past summer between the extremes of 11.6 and 15.8 per cent. of volatile matter in the wearing surface. The volatile matter includes all the tar, all the asphalt except its ash, and the sulphur, water of the lime, and the combined water formed in the gneissic or schistic rock used with the sand, which contains some hydrous mica, and is not on this account, and from its fracture, altogether suited for the purpose for which it is employed. The average per cent. has been between 12.0 and 14.0, with variations such as may occur from one filling of the mixer to the next, as appears from the following figures on seven successive loads on Dunbarton avenue on August 8: 11.66, 12.38, 11.84, 12.22, 11.85, 12.04.

The excessive figure 15.8 was evidently an accident and was soon corrected at the works, the percentage of volatile gradually falling to 14 and 13, then to 12 per cent.

The harder character of the tars later on in the summer has also necessitated the diminution in some cases of the amount of asphalt for the moment, to avoid too hard a surface.

With a view to studying the extremes of temperature to which the wearing surface of the pavements is exposed, I have taken the temperatures of several on the hottest day of the past summer, with the following result:

	Degrees.
Maximum temperature according to Signal Office.....	103
Maximum temperature in shade at 5 feet from sidewalk	108

The temperature of the pavement was obtained by boring a hole in the surface, sinking a thermometer and packing tight with the borings. The results were as follows: Asphalt pavement, H street northwest, at Seventeenth street, temperature on surface, at 2.15 p. m., 126°.

The temperature of the air immediately above, as heated by radiation, was found by placing a bottomless tin can over the pavement, through the top of which a thermometer was inserted within 3 inches of the pavement.

	Degrees.
Temperature of air above pavement	122
Temperature of air in shade of tree-box at 5 feet	108
Temperature of black-bulb thermometer in sun	122

After a heavy shower at 4.30 p. m.:

Temperature of surface	111
Temperature of air above pavement	101
Temperature of air in shade	92

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At 8 p. m. :

Temperature of surface	98
Temperature of air above	86
Temperature of air at 5 feet	84

In an old black distillate surface on Jackson Place the results were:

	Degrees.
Temperature of surface	138
Temperature of air above	124
Temperature of black bulb in sun	122
Temperature of air in shade, 5 feet	107

After the shower :

Temperature of surface	107
Temperature of air above	98
Temperature of air	92

At 8.30 p. m. :

Temperature of surface	97
Temperature of air above	87
Temperature of air, 5 feet	84

In a new distillate surface on L street, covered with a coating of light-colored hydraulic cement, the readings were, at 3:20 p. m. :

	Degrees.
Temperature of surface	122
Temperature in air, 5 feet	94

At 8 p. m. :

Temperature of surface	99
Temperature of air above	88
Temperature of air, 5 feet	84

Of the asphalt block in H street, worn quite to a white surface, the temperatures were, at 3:15 p. m. :

	Degrees.
Temperature of block	124
Temperature of air above	110
Temperature of air	106

In the evening the white worn block on Jefferson Place read, at 5:30 p. m.:

	Degrees.
Temperature of air above	92
Temperature of air, 5 feet	88

At 8 p.m.:

Temperature of air above	88
Temperature of block	90
Temperature of air, 5 feet	86

The presence of the coating of hydraulic cement rolled into the surface of the pavement, by giving a lighter-colored surface and better reflecting qualities, reduces the temperature to a marked degree, while the jet-black old distillate surface proved by far the hottest of any.

The temperatures, it will be seen, are such that the constituents of the lower fractions of tar would readily soften and even run if they are present in any amount.

CEMENT.

The inspection of hydraulic cements has included daily tests of the different brands in use on the public works in the District, but its usefulness has not been as great as is desirable, from the fact that it is impossible to conclude the tests in season to prevent at times the use of that which is not of the best quality. The construction of a storehouse from which cement can be issued to contractors after having undergone a thorough examination in this office will be a great advantage.

The brands which have been in use are: Of Portland cement, Brooks & Shoebridge, Hoyle & Robson; of light-burned cement, Shepherds-town, Round Top, Cumberland, Rosendale, N. Y.

The Hoyle & Robson Portland is the heavier of Portland cements, the weights per bushel averaging: Hoyle & Robson, 96 pounds; Brooks & Shoebridge, 89 pounds. The determinations of weight were made by letting the cement fall into a miniature bushel through a funnel at the height of 1 foot and calculating the result to the full bushel.

The percentage of cement not passing a 90-mesh seive was: Hoyle & Robson, 30.0 per cent.; Brooks & Shoebridge, 19.0 per cent. The greater weight is, therefore, due in the case of the Hoyle & Robson to its coarser condition.

The tensile strength of these cements and the amount of water re-quired for making a stiff mortar and the time of setting are as follows:

The briquettes were exposed to the air one day and then placed in water, except for the one-day tests, which were submerged as soon as set.

Cement.	Age.	Tensile strength.	Parts sand.	Per cent. water.	Time of setting.	
	Days.				<i>h.</i>	<i>m.</i>
Brooks & Shoebridge	1	141	0	38		45
Do	7	209	0	38		45
Do	28	362	0	38		45
Hoyle & Robson	1	98	0	24		30
Do	7	292	0	24		30
Brooks & Shoebridge	1	26	2	13	1	20
Do	7	100	2	13	1	20
Hoyle & Robson	1	2	2	12	1	10
Do	7	82	2	12	1	10

The effects of the coarser grinding on the Hoyle & Robson seem to be marked. In one case the Brooks & Shoebridge cement disintegrated on immersion in water on setting, due probably to an excess of lime. The lot was condemned.

LIGHT-BURNED AMERICAN CEMENTS.

The light-burned cements which have been tested have shown the following characteristics:

	Weight per bushel.	Coarser than 90 mesh.
Shepherdstown	59.3	5.5
Cumberland	63.5	19.8
Round Top	62.8	10.5
Rosendale, N. Y.	64.0	24.0

	One day.	Seven days.	Twenty-eight days.	Three months.	Six months.	One year.
Shepherdstown	28	91	237	286	230*	324*
+ 2 Sand	6	26	80			
Cumberland	94	218	313		260*	
+ 2 Sand	23	40				
Round Top	70	141	180		314*	
+ 2 Sand		28				
Rosendale, N. Y.	But one sample*with results so poor as to condemn it.					
+ 2 Sand						

*Different lot of cement from the preceding. Professor de Smedt's briquettes.

The Cumberland cement gives the greatest tensile strength, but suffers from its peculiarity of setting so rapidly as to be difficult to handle. The cements set on the average as follows :

	Minutes.
Shepherdstown.....	30
Cumberland.....	10-25
Round Top.....	35

And require to make a neat cement the following amount of water :

	Per cent.
Shepherdstown.....	36-38
Cumberland.....	22-25
Round Top.....	22-25

The greatest deficiency in the cements of this class lies in their lack of uniformity, so that a constant supervision is necessary to detect poor lots.

The Shepherdstown sets slowly and also, owing to the presence of magnesia, attains strength slowly ; but in work where time in gaining strength is not a consideration it has proved an excellent cement, although now and then showing weak lots. It has been the principal cement in use of late and works with satisfaction.

In making the tests recorded above the rules of the Society of Civil Engineers have been followed, but for the purpose of studying the effect of varying conditions the following experiments, which are of interest, have been carried out :

	One day.	Seven days.	Twenty-eight days.	Thirty days.
Shepherdstown cement :				
A. Mortar made quickly, set 15 minutes, 46.2 per cent. water	32	74	.....	226
B. Mortar worked 30 minutes, set 1 hour 10 minutes, 51.2 per cent. water	13	74	.....	233
Cumberland cement :				
A. Mortar made quickly, set 22 minutes.....	86	240	.....	.....
B. Allowed to set and freshly worked.....	.....	134	.....	.....
Sphinx Portland :				
A. Mixed quickly, set 2 hours 40 minutes.....	166	428	.....	464
B. Worked 15 minutes, set 3 hours.....	175	426	.....	510
C. Worked 30 minutes, set 4 hours.....	216	.....	.....	458
Shepherdstown :				
A. Mixed quickly, set 15 minutes.....	24	70	270	.....
B. Worked 15 minutes, set 20 minutes.....	20	74	250	.....
C. Worked 30 minutes, set 25 minutes.....	22	70	262	.....

From these results it appears that continued working increases the time required for setting after working has ended ; but that where it is not carried beyond the usual time of initial setting, as in the Portland experimented upon, it is of benefit. In one case with Shepherdstown the continued working with excess of water much delayed the final setting and injured the strength in the one-day test, which, however, was entirely regained in a week. In the other sample neither time of setting nor strength was materially affected, the water not being increased. With a Cumberland, which was allowed to set without working, and then again mashed up and made into a mortar, the results show that although on the one-day test the second set briquette had no strength, it had gathered much at the end of a week, and at the end of a month would probably approach more nearly a quick-worked briquette. The general conclusion derived from these results is that delay in handling the quick-setting cements injures their strength for the time being, but that it is slowly recovered.

The tendency to use too much water in mortars is frequent. The result of this source of error was examined, as follows:

Shepherdstown cement.

	Water in bri- quettes.	Strength.
One day	35.2	43.0
Do	42.6	8.0
Seven days	35.2	110.0
Do	46.2	49.0
Twenty-eight days	35.2	150.0
Do	46.2	Bad.

Too much water evidently is a serious injury to the mortar. Other experiments of a similar nature are now in progress, which are as yet incomplete.

Very respectfully,

CLIFFORD RICHARDSON,
*Chemist to the District and
Inspector of Asphalt and Cements.*

Col. WILLIAM LUDLOW,
Engineer Commissioner.

APPENDIX 9.

REPORT OF SUPERINTENDENT OF STREETS.

OFFICE OF SUPERINTENDENT OF STREETS,
Washington, August 22, 1887.

COLONEL: I have the honor to submit the following report of work done in the engineer department under superintendence of this office during the fiscal year ending June 30, 1887.

REPAIRS TO STREETS, AVENUES, AND ALLEYS.

Appropriation for current repairs to streets, avenues, and alleys, 1886-'87.		\$25,000.00
Cobble and rubble pavement laid.....	square yards..	24,938
Granite block-pavement laid	do.....	718
Macadam pavement resurfaced	do.....	13,585
Brick pavement laid	do.....	10,157
Asphalt block and tile pavement laid	do.....	1,151
Gravel roadway repaired.....	do.....	26,192
Curb-stone set or reset.....	linear feet..	6,300
Flagging laid or relaid.....	do.....	22,261
Sewer-pipe laid or relaid.....	do.....	921
Traps and drops built		3
Gutter-bridges built		2
Flumes repaired		3
Curb-stone redressed.....	linear feet..	1,698
Grading	cubic yards..	8,454
Miscellaneous minor repairs, dangerous holes, etc.....		866

Six public dumps were regulated during the year, as follows: One in Olive street between Twenty-eighth street and Rock Creek; 1 in Reservations 15 and 16; 1 in Twenty-second street between M and Q streets

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northwest; 1 in Canal street between South Capitol and First street southwest; 1 in the vicinity of Van Ness Park; and 1 in Square No. 674.

Total expenditure, \$24,935.09

REPAIRS TO BRIDGES.

Appropriation for repairs to bridges \$10,000

A new floor was laid on the south roadway of the K Street Bridge across Rock Creek. New floors were laid on both roadways of the P Street Bridge across Rock Creek, and the footways of the Anacostia Bridge were repaired with good second-hand lumber.

The timber from the southern approach to the Aqueduct Bridge across the Potomac River was removed and stored at the G street property-yard.

Twenty-eight minor repairs were made to bridges and bridge approaches.

Total expenditure by this office, \$1,039.38.

SWEEPING, CLEANING, AND SPRINKLING STREETS, AVENUES, AND ALLEYS.

Appropriation for sweeping, cleaning, and sprinkling streets, avenues, and alleys \$58,000

Under this appropriation snow and ice were removed from the crossings of the principal streets and avenues five times during the winter, and roadway of New York avenue between Seventh and Boundary streets was cleaned and sprinkled during the fall and spring meetings at the National Fair Grounds.

Various gutters, sidewalks, roadways, and alleys were cleaned, aggregating as follows:

Gutters, sidewalks, and roadways cleaned.....	linear feet..	718,345
Alleys cleaned.....	do.....	20,209

This work was done on unimproved streets and alleys, and cost, together with carts for the work-house gang, \$8,648.35.

APPROPRIATION FOR SEWERS.

Pipe-sewer laidlinear feet.. 780

Total expenditure, \$213.03.

Labor paid from school fund, \$292.74.

CLEANING SEWERS AND BASINS.

Appropriation for cleaning sewers and basins..... \$25,000.00

Pipe-sewer cleaned.....	linear feet..	101,552
Brick sewer cleaned.....	do.....	496
Pipe-sewer laid or relaid.....	do.....	1,043
Traps and drops cleaned.....		33,224
Traps and drops built.....		26
Traps and drops repaired.....		278
Man-holes built.....		11
Catch-basins trapped.....		1
Man-holes repaired.....		96
New bluestone trap-covers set.....		13
Outlet caps to traps put in.....		39
Minor repairs to sewers.....		122

Total expenditure to March 31, when the work was turned over to Mr. D. E. McComb, superintendent of sewers, \$21,026.84.

Appropriation for work on sundry avenues and streets and replacement of pavements:

Man-holes repaired	8
Total expenditure, \$62.08.	

PLUMBERS' CUTS.

Eighty-three cuts were made by plumbers and others in granite block and other pavements and were repaired, as follows:

Granite block pavement relaid	square yards..	1,332
Asphalt block pavement relaid	do....	53
Brick sidewalk relaid	do....	30
Telegraph conduit repaired		1

The cost of this work was paid from deposits made by plumbers and others, and amounted to \$1,645.88.

Appropriation for work on county roads and suburban streets:

Macadam roadway repaired	square yards..	6,024
Macadam laid	do....	2,147
Rubble pavement laid	do....	2,895
Trap block pavement laid	do....	1,813
Sewer-pipe laid	linear feet..	198
Grading	cubic yards..	1,138

Total expenditure \$3,722.70, of which amount the Metropolitan Railroad Company paid \$426.05 for the two feet of pavement outside their tracks on Seventh-street road.

PERMIT WORK.

Appropriation for materials for permit work, 1887	\$60,000.00
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Appropriation for 1888, available in 1887 from March 3, 1887, the date of approval of appropriation act.

SURFACE WORK.

Brick pavement laid	square yards..	12,167
Cobble and rubble pavement laid	do....	5,406
Granite block pavement laid	do....	73
Asphalt block pavement laid	do....	15,244
Asphalt block sidewalk laid	do....	1,365
Asphalt tile sidewalk laid	do....	6,775
Curb-stone set	linear foot..	16,833
Flag-stone laid	do....	11,342
Trap block pavement	square yards..	73

Cost of materials to appropriation 1887	\$46,778.26
Cost of materials to appropriation 1888	6,323.34
Cost of materials on hand	3,481.41
Cost of materials to property-owners	1,281.95
Cost of labor to property-owners	19,524.88

Total cost of surface work	77,389.84
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Accompanying statement, marked "A," shows in detail the location, kind, and cost of each piece of work, for whom done, and the overseer. Also the amount returnable to each depositor.

COMPULSORY PERMIT WORK.

The act of Congress approved July 9, 1886, authorizes the District Commissioners to apply materials for permit work and to "pay from this appropriation the cost of labor for the improvement and repair of alleys and sidewalks when, in their opinion, such course is necessary for the public health, safety, or comfort; provided that the cost of such labor shall be charged against and become a lien on the abutting property, and its collection shall be enforced in the same manner as the collection of general taxes, and shall, when so collected, be credited to said appropriation."

Under this act work was done as follows:

Curb-stone set	linear feet..	1,208
Flagging laid	do.....	1,214
Brick sidewalk laid	square yards..	1,118
Cobble pavement laid	do.....	404
Asphalt block pavement laid	do.....	1,927
Asphalt tile pavement laid		69
		\$5,009.59
Cost of materials to appropriation 1888		1,795.04
Cost of labor		
		6,804.63
Total cost		

Accompanying statement, marked "C," shows details of expenditure

PERMIT WORK—SEWERS.

Pipe-sewer laid	linear feet..	13,294
Brick sewer laid	do.....	472
Traps and drops built		6
Man-holes built		59
		\$5,162.44
Cost of materials to permit fund		731.12
Cost of materials on hand		880.16
Cost of materials to property-owners		9,572.12
Cost of labor to property-owners		
		16,345.84
Total cost of sewer-work		

Accompanying statement, marked "B," shows in detail the location, kind, and cost of each piece of work, for whom done, and the overseer. Also the amount returnable to each depositor.

The above report of the sewer-work is for the first nine months of the fiscal year, after which the work was turned over to Mr. D. E. McComb, superintendent of sewers.

Statement showing annual increase of permit work.

Appropriation.	Cost to District of Columbia.	Cost to property-owner.	Total cost.
1883-'84	\$21,914.05	\$20,113.29	\$42,027.34
1884-'85	31,971.63	21,483.48	53,455.11
1885-'86	55,703.44	35,957.25	91,660.69
1886-'87	71,943.65	38,128.25	110,071.90

UNDER-GROUND TELEGRAPH.

Under-ground telegraph and telephone cables were laid for the Standard Under-ground Cable Company, for use of the District fire-alarm service, as follows: From the northwest corner of Fifth street and Massachusetts avenue along the west side of Fifth street to the north side of R street; along the north side of R street to No. 7 engine-house; along the alley in rear of the engine-house to Tenth street; along Tenth street, on the east side, to a box on the south side of V street; on the south side of Q street, from the main line on Eleventh street, to a box at the southwest corner of Twelfth and Q streets; from the northwest corner of Eleventh and G streets, on the west side of Eleventh, to the south side of Q street; on the north side of L street, from the main line on Eleventh, to the northwest corner of Twelfth and L streets; on the north side of New York avenue, from the main line in Eleventh street, to the northwest corner of Tenth street and New York avenue; on the south side of New York avenue, from the main line in Fifth street, to the southwest corner of New York avenue and Fourth street; on the south side of H street northeast, from the southeast corner of Second street, to the southwest corner of Tenth street northeast. All laid in sidewalks except across intersecting streets.

The work was done by District laborers, upon the written request of the Standard Underground Cable Company, and consisted of the following:

Trench dug	linear feet..	19,806
Excavation	cubic yards..	1,851
Granite block pavement relaid	square yards..	47
Asphalt block pavement relaid	do....	9
Asphalt tile pavement relaid	do....	19
Cobble pavement relaid	do....	203
Concrete pavement relaid	do....	212
Macadam pavement relaid	do....	68
Brick pavement relaid	do....	4,724
Length of cable laid	linear feet..	19,806
Length of wires in cables	do....	83,641

The whole cost of laying the cables and repairing pavements was paid by the cable company and amounted to \$2,634.14. (Cost per linear foot, 13½ cents.)

WORK-HOUSE LABOR.

Gangs of work-house prisoners were employed under police surveillance in cleaning gutters, alleys, and streets, and in draining ponds, filling dangerous holes, etc., for which no regular appropriation of money was available, and which would have otherwise remained undone.

Besides the numerous holes, ditches, ponds, etc., cleaned or drained by these prisoners, there were cleaned:

Gutters, sidewalks, and roadways	linear feet..	656,762
Alleys	do....	1,700

In addition to the foregoing another gang with dump-cars and railway track was employed in grading A street between Twelfth and Fourteenth streets southeast, and on East Capitol street. On these streets were expended 10,422 days' work of men and 642 days' work of horses, under superintendence of Mr. W. H. Stoutenburgh.

RECAPITULATION.

Brick pavement laid.....	square yards..	28,681
Cobble and rubble pavement laid.....	do....	33,846
Granite block pavement laid.....	do....	2,170
Asphalt block pavement laid.....	do....	19,548
Asphalt tile pavement laid.....	do....	7,064
Trap block pavement laid.....	do....	73
Macadam pavement laid.....	do....	2,147
Macadam pavement repaired.....	do....	19,677
Gravel roadway repaired.....	do....	26,192
Curbstone set or reset.....	linear feet..	24,341
Flagging laid or relaid.....	do....	34,817
Pipe sewer laid.....	do....	16,236
Brick sewer built.....	do....	472
Pipe sewer cleaned.....	do....	101,552
Brick sewer cleaned.....	do....	496
Traps and drops cleaned.....		33,224
Traps and drops repaired.....		278
Traps and drops built.....		40
Manholes built.....		70
Manholes repaired.....		104
Catch basins trapped.....		1
New bluestone trap covers set.....		13
Gutter bridges built.....		2
Flumes repaired.....		3
Outlet caps to traps put in.....		39
Gutters, sidewalks, and roadway cleaned.....	miles..	260.43
Alleys cleaned.....	do....	4.13
Curbstone redressed.....	linear feet..	1,698
Grading.....	cubic yards..	29,770
Minor repairs, dangerous holes, etc.....		988

Total expenditure, \$164,760.54.

ALLEYS.

A large portion of the cobble paving done during the year was in repairing alleys, notwithstanding which there is as much, if not more, repairing needed to the cobble pavements in alleys.

No new pavements of this kind were laid, asphalt blocks and granite being used in the newly-paved alleys, and in several instances the old cobble pavements were removed and asphalt blocks substituted. The use of the pavement suggested by Mr. Bailey is recommended for alleys; that is, to break into metal the old sheet asphalt removed from resurfaced streets and use it for a base to distillate pavements.

From his estimate it will be seen that the cost of a pavement of this kind will be considerably less than that of asphalt blocks.

In order to do the work under the permit system the road-bed of the alleys might be graded, and the metal broken and spread ready to receive the surfacing, by the regular force of District employes, and the surface coat then put on and finished by the contractor for minor repairs.

SIDEWALKS.

The rapid deterioration of the old brick sidewalks calls for serious consideration. Many of them are worn out and need replacing with some more durable material. Considerable work has been done in different places under the permit system to remedy the defects, but by far the larger portion remains to be done.

As there is no appropriation available for this kind of work other than that for "materials for permit work" under the compulsory system, I would respectfully suggest that this appropriation be largely increased in order to make necessary repairs to sidewalks and alleys.

Very respectfully,

JNO. J. BURROWS,
Superintendent of Streets.

Col. WILLIAM LUDLOW,
*Corps of Engineers, U. S. A.,
Engineer Commissioner, District of Columbia.*

H. Ex. 1, pt. 6—39

A.—Surface permit

Number.	Locality.	Grading (cubic yards).	Curb set (linear feet).	Brick sidewalk (square yards).	Cobble or rubble (square yards).	Granite block (square yards).	Asphalt block, roadway (square yards).	Asphalt block, sidewalk (square yards).	Granolithic (square yards).	Paving (linear feet).	Belgian block (square yards.)	Traps and drops (number).	Asphalt tile sidewalk (square yards).
1	229 N. J. ave. NW							90					
3	D bet. 1st and canal SW	44	96	70	29					86			
5	Va. ave. bet. 3d and 4½ SW	171	188		21		420						
8	1213 7th st. NW												49
9	110 D st. NW			10				17					
10	409 13½ st. SW		20					47					
16	Cor. 9th and D NW		45										288
17	12th bet. D and E SE	212	226	284	75					226			
22	Va. ave. and D, and 6th and 7th SW	160	110				425						
23	122 G st. NE	22	27	17	6					15			
24	1351 U st. NW		19	14	7					19			
25	Cor. 7th and H, NW												48
26	913 D st. NW												33
27	14th bet. L and M, NW		200										300
29	Defrees st. NW	1,200	813	18			1,967						
30	W bet. 9th and 10th NW		130	133	40					130			
33	1014 Pa. ave. NW												31
34	Alley, sq. 378 NW						365						
35	15th st. N. Y. ave. and H NW												245
37	922 F st. NW												45
38	15th st. bet. Cor. and R NW	125					252						
41	G st. bet. 4th and 5th NW	466	210	187	70					210			
43	3d st. bet. H and I NE	52	89	80	30					89			
44	Alley, sq. 247 NW	122					157						
46	McLane ave. SW	960	1,317	967	6		2,127			48	2		
47	Cor. M and Wash. sts. NW							140					
48	312 C st. NW												25
51	712 13th st. NW												63
52	1117 14th st. NW												30
53	I st. 15th and Vt. ave. NW	35	290	123							1		218
55	7th st. bet. O and P NW	65						595					
56	1320 N. Y. ave. NW		44										96
60	U st. bet. 16th and 17th NW		80	80	27					80			
62	1500 P st. NW			43									41
63	H st. bet. N Cap. and 1st NE			84									
64	1620 M st. NW												73
66	M st. bet. 21st and N. H. ave. NW												201
67	C st. and Del. ave. SW	134	227	218	76					227			
68	A bet. 14th and 15th NE	50	163	163	54					163			
71	2d bet. M and N SE	24	65	54	23					66			
72	12th bet. W and Bdy. NW	100	514	514	171					514			
73	Cor. 14th and S NW			800									
74	I bet. 5th and 6th NW												107
75	Alley in sq. 214 NW						166						
76	1414 32d st. NW			18									
77	Bdy. st. Le Droit ave. and Linden	440	300										
78	Alley, sq. 873 NW	65					123						
79	Alley, sq. 276 NW	235	28				229						
80	1109 14th st. NW												35
81	Alley, bet. V and W and 10 and 11th NW		183	148	45		139			127			
82	Mass. ave. bet. 4th and 5th NW						218						
83	813 5th st. NW												28
84	680, 682, 684, and 686 4th st. NE	10	50		16					50			
86	706 C st. NE		19		6					19			
89	1312 7th st. NW												23
90	W bet. 12th and Cleveland ave		163	163	73					163			
91	1342 7th st. NW							50					
93	Tenn. ave. NE	180	233	241	78					233			

* Repairs to engine houses.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 611

work, 1886 and '87.

Estimated cost of labor.	Cost of labor.	Cost of materials.				Total cost.	Cost under estimate.	For whom done.	Overseer.
		Permit fund 1887.	Permit fund 1888.	On hand.	Property owner.				
\$39.20	\$37.49	\$174.30				\$211.79	\$1.71	W. A. Smith....	Calhoun.
44.58	40.44	82.36		\$13.65		136.45	4.14	Ed. Temple....	Cooksey.
194.80	180.72	839.86		33.60		1,054.18	14.08	J. L. Barber....	Calhoun.
17.04	16.91	53.28				70.19	.13	P. Ward.....	Do.
55.54	11.11				\$44.38	55.49	.05	Wm. M. Galt....	Do.
19.60	18.93	3.50		54.60		77.03	.67	G. W. W. Bramville.	Do.
123.86	88.00	386.90				474.90	35.86	S. S. Pratt & Son.	Do.
198.72	163.59	38.85		175.62	30.98	409.04	4.15	G. J. Mueller...	Cooksey.
171.00	143.42	802.90				946.32	27.58	S. C. Palmer....	Calhoun.
10.90	10.47	24.33		1.00		35.80	.43	H. W. Spresser..	Do.
8.10	8.08	6.75				14.83	.02	J. J. Calvert....	Do.
8.25	8.25	54.00				62.25		A. Herman.....	Do.
12.20	11.11	37.20				48.31	1.09	J. Beha.....	Do.
224.98	216.98	580.72			8.00	805.70		Thos. J. Fisher & Co.	Do.
818.40	778.28	3,739.19				4,517.47	40.12	B. H. Warner & Co.	Do.
64.85	64.85	140.13		8.00		212.98		J. H. Marr.....	McMurray.
20.40	18.43	44.28				62.71	1.97	J. W. Thompson	Calhoun.
156.40	149.66	740.15				889.81	6.74	Stilson Hutchins.	Do.
59.88	57.31	283.80				341.11	2.57	W. H. Wormly..	Do.
20.00	17.67	66.55				84.22	2.33	C. Ruppert.....	Do.
125.80	122.33	573.30				695.63	3.47	E. S. Bachman...	McMurray.
194.55	194.55	259.54		14.00		468.09		R. E. Bocker....	Cooksey.
42.93	42.67	95.48		5.80		143.95	.26	M. C. Collins...	Do.
80.50	70.44	391.90				462.34	10.06	D. Callahan....	Calhoun.
1,211.00	1,016.24	5,211.42				6,227.66	194.76	B. H. Warner & Co.	Cooksey.
58.40	55.04	14.70		168.76		238.50	3.36	Beckwith & Quackenbush.	Calhoun.
9.20	8.08	32.45				40.53	1.12	F. Koomes.....	Do.
24.80	22.22	82.35				104.57	2.58	J. E. Harvey....	Do.
12.00	10.35	39.15				49.50	1.65	D. Callahan....	Do.
700.26	228.43	184.42		1.62	294.15	708.62	177.68	Hornblower & Marshall.	Do.
232.00	198.46	67.20		867.00		1,132.66	33.54	E. W. Doun....	Do.
24.50	24.24	26.81				51.05	.26	Z. T. Sowers....	Do.
43.40	43.17	82.41		18.20		143.78	.23	Wm. P. Kellogg..	McMurray.
14.76	14.26	53.40		60.20		127.86	.50	Wm. McGuire...	Calhoun.
18.00	17.17	32.37				49.54	.83	F. Towmey.....	McMurray.
29.20	26.00	97.20				123.20	3.20	Wood Bros.....	Calhoun.
71.44	71.44	272.28				343.72		D. Shea et al....	Do.
107.54	101.21	264.35		69.60	6.33	441.49		J. W. Shiles....	Cooksey.
86.75	86.75	170.49		10.80		268.04		E. Skelley.....	McMurray.
32.30	30.28	25.25		40.96		96.49	2.02	J. T. Donohue...	Cooksey.
450.50	267.77	269.39			38.50	575.66	144.23	D. B. Groff.....	McMurray.
200.00	118.32	42.00				160.32	81.68	Ed. Temple....	Do.
52.50	49.61	138.60				188.21	2.89	F. M. Detweiler.	Calhoun.
66.80	66.52	421.75				488.27	.28	Wm. M. Galt....	Do.
5.10	5.05	7.05				12.10	.05	Geo. Bauer.....	Do.
269.39	260.61	333.69		49.00		643.30	8.78	A. L. Barber....	McMurray.
64.20	64.13	232.45				296.58	.07	W. H. Garges....	Calhoun.
107.06	107.06	459.44				566.50		F. M. Guy et al..	Do.
13.80	12.12	45.60				57.72	1.68	G. W. Pope.....	Do.
143.88	143.84	446.32		6.67		596.83	.04	A. Ruppert.....	McMurray.
*84.48	84.48	323.40				407.88		Inspector build-ings	Calhoun.
10.80	10.71	37.59				48.30	.09	M. E. Moore....	Do.
33.40	32.68	25.07		35.32		93.07	.72	J. C. Davidson...	Do.
10.80	10.52	9.93		12.16		32.61	.28	John Noland....	McMurray.
9.20	9.09	30.71				39.80	.11	J. Sondheimer...	Calhoun.
163.46	119.80	120.48				240.28	43.66	D. B. Groff.....	McMurray.
18.40	18.18	144.48				162.66	.22	S. P. Walters...	Calhoun.
150.35	139.57	146.37		16.40		302.34	10.78	F. S. Obold.....	Cooksey.

612 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

A.—Surface permit

Number.	Locality.	Grading (cubic yards).	Curb set (linear feet).	Brick sidewalk (square yards).	Cobble or rubble (square yards).	Granite block (square yards).	Asphalt block, roadway (square yards).	Asphalt block, sidewalk (square yards).	Granolithic (square yards).	Flagging (linear feet).	Belgian block (square yards).	Traps and drops (number).	Asphalt tile sidewalk (square yards).
94	511 7th st. NW												29
97	E st. bet. N. Cap. and N. J. ave				00					163			149
99	Alley in sq. 195 NW						190						
100	Alley in sq. 250 NW						301						
101	1315 7th st. NW												31
102	Richardson Place	22	84	55	24					72			
103	Del. ave. bet. C and D SW		50	10	20		288						
105	Alley, sq. 161 NW						175						
106	1324 7th st. NW												31
107	1420 M st. NW												41
109	Cor. 31st and O NW												
110	Navy ave. and Shannon Place	970	1,157	828	424					1,200			
111	939 to 945 R. I. ave												137
112	815, 817, and 819 5th st. NW												62
113	13th st. bet. T and Wallach		84	84	28					84			
114	3d bet. N st. and McLane ave.		225	214	75					225			
120	9th bet. E and G SE	48	52	46	17					52			
123	2020 and 2022 N NW			5									35
124	Alley, sq. 597 NW	226			00		386			58			
125	Alley, sq. 368 NW						172						
126	Cor. 10th and W NW		188		83					188			
128	Alley, sq. 457 NW				310		310						
129	219½ and 221 E st. NE	12	28		10					28			25
131	1222 7th st. NW												29
132	Alley, sq. 159 NW						150						
133	409 11th st. NW												67
134	15th and E st. NW												0
135	Alley, sq. 628 NW	540			12		1,575						
136	905 L st. NW												58
139	607 F st. NW												28
140	Cor. Pa. av. and 25th NW		15										162
141	19th and E st. NW												0
142	D st. bet. 7th and 8th NW												53
143	L st. bet. 1st and 2d NW	25	78	70	26					78			
145	21 E st. NW												9
146	205 Pa. ave. SE												30
147	1st st. bet. I and K SE	3,565	793	462	490					701			
150	72 Myrtle st. NE												33
151	2d Precinct station house						32						123
152	Alley, sq. 67 NW						157						
153	Pa. ave. bet. 2d and 3d SE												40
155	Cor. N. J. ave. and E NW	15	100		22			12		100			104
156	207 7th st. NW												14
157	736 7th st. NW												31
161	1122 9th st. NW												52
162	Park st. and Piney branch road	8	145	80	33					105			
164	H st. N Cap. and 1st NW												98
167	14th ext. bet. Stoughton and Chapin												331
168	Maple ave. bet. Nichols ave. and High st.	3,318	1,764	864	588					1,541			
169	2901 and 2903 Q st. NW	10	42	46	14					42			
172	2 and 3 Thomas Circle			06									
174	T bet. 6th and 7th NW		110	08	37					110			18
178	1311 and 1319 F st. NW		72	10		26							66
179	Cor. 30th and O NW							42					101
181	Cor. 7th and Q NW		18	9									300
184	Alley, sq. 29 NW	114			338								
189	731 7th st. NW												35
190	N. Y. ave. bet. 6th and 7th NW		60					252					
194	220 8th st. SW												18
195	1230 7th st. NW												35
196	I st. bet. 6th and 7th SE	33	56	50	28					112			

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 613

work, 1886 and '87—Continued.

Estimated cost of labor.	Cost of labor.	Cost of materials.				Total cost.	Cost under estimate.	For whom done.	Overseer.
		Permit fund 1887.	Permit fund 1888.	On hand.	Property owner.				
\$11.60	\$11.60	\$39.45				\$51.05		T. Hogle	Calhoun.
116.74	109.82	207.90				317.72	\$6.92	C. Burlew	Do.
92.00	92.00	338.97				430.97		D. P. Morgan	Do.
131.60	115.94	549.21	\$29.25			694.40	15.66	G. H. B. White..	Do.
12.40	12.37	38.10				50.47	.03	J. Xander	Do.
47.38	38.23	31.12		\$56.76		126.11	9.15	W. H. Wood	McMurray.
†105.36	105.36	567.38				672.74		Fire dept., D. C.	Calhoun.
93.95	92.94	368.56				461.50	1.01	H. Schultz	Do.
12.00	12.00	40.27				52.27		G. T. Dearing	Do.
17.60	16.91	52.81				69.72	.69	Samuel Fowler ..	Do.
7.20	3.49				\$3.60	7.09	.11	C. Mathews	Do.
632.62	588.55	1,142.51		84.20		1,815.26	44.07	B. H. Warner	Cooksey.
54.91	53.02	132.13				235.15	1.89	Swormstedt & Bradley.	Calhoun.
24.60	24.49	80.08				104.57	.11	J. A. Williams ..	Do.
40.75	39.64	34.56				74.20	1.11	Jas. Robbins	McMurray.
102.00	88.74	313.57				402.31	13.26	B. H. Warner	Cooksey.
35.03	31.99	13.29				45.28	3.04	J. P. Ryan	Calhoun.
15.74	15.40	45.50				60.90	.34	J. E. Dexter	Do.
223.00	216.22	780.75		48.60		1,045.57	6.78	E. Temple	Cooksey.
85.20	83.46	394.43				477.89	1.74	J. G. Myers	Calhoun.
95.20	86.47	80.63		87.53		254.63	8.73	Hufty & Dyer	McMurray.
124.00	124.00	572.26				696.26		John L. Vogt	Do.
12.10	12.10	34.26				46.36		Lewis C. Main	Cooksey.
12.00	11.91	38.17				50.08	.09	E. W. Doun	Calhoun.
60.00	60.00	296.02				356.02		J. E. Fitch	Do.
26.40	23.73	89.40				113.13	2.67	M. J. Copeland ..	Do.
13.97	3.03				10.84	13.87	.10	J. C. Jewell	Do.
740.00	725.97	2,866.63	196.87			3,789.47	14.03	J. F. Waggaman ..	Do.
17.22	14.64	47.56				62.20	2.58	P. M. Dubant	Do.
15.10	10.85	32.53			4.25	47.63		B. Burnstine	Do.
85.22	49.99	215.25			33.72	298.96	1.51	A. P. Fardon	Do.
14.04	3.15				10.84	13.99	.05	C. C. Purcell	Do.
39.28	30.04	115.05				145.09	9.24	D. B. Clark	Do.
40.43	35.72	33.25		15.00		83.97	4.71	W. F. Nash	Do.
14.04	3.03				10.84	13.87	.17	T. F. Maher	Do.
12.00	11.48	39.75				51.23	.52	J. D. Reppetti ..	Do.
948.61	948.61					948.61		B. & P. R. R. Co	Dillon.
6.75	6.75	12.12				18.87		Jas. McDonald ..	Calhoun.
62.25	63.25	240.66				303.91		Police dept.	Do.
75.30	75.30	308.94				384.24		B. H. Warner	Do.
16.00	16.00	52.87				68.87		Wm. Wagner	Do.
73.84	66.14	147.34			6.00	219.48	1.70	Jas. Ferry	Do.
13.60	13.60	44.92				58.52		H. F. Schoenburn.	Do.
12.20	11.36	40.35				51.71	.84	A. Herman	Do.
14.80	13.11	40.26				53.37	1.69	A. B. Wolf	Do.
79.25	78.83	130.85		9.45		219.13	.42	C. F. Cobb	McMurray.
47.76	46.61	151.52				198.13	1.15	W. A. Stewart ..	Calhoun.
262.73	146.09	363.68			99.15	608.92	17.49	Aulic K. Palmer ..	Do.
1,250.27	1,250.27	1,441.51	193.21	85.30	85.30	2,970.29		H. A. Griswold ..	Do.
26.59	26.59	69.64				96.23		Tyler & Rutherford.	Do.
22.01	19.81	32.60				52.41	2.20	Hornblower & Marshall.	Do.
75.40	74.69	140.98				215.67	.71	D. B. Groff	Calhoun.
76.87	76.87	157.21	9.00			243.08		D. A. Ridgeway ..	Do.
63.60	59.53	219.53				279.06	4.07	Beckwith & Quackenbach.	Do.
180.60	91.63	358.17			44.58	494.38	44.39	R. C. Hewitt	Do.
179.34	172.05	606.90			5.88	784.83	1.41	Sam'l Norment ..	McMurray.
16.10	15.43	47.04				62.47	.67	D. Ballanf	Calhoun.
361.39	87.33	128.54			255.26	471.13	18.80	J. G. Bowen	Do.
8.19	8.08	23.84				31.92	.11	C. W. Ridley	Do.
16.10	16.06	47.04				63.10	.04	R. A. Hebsacker ..	Do.
31.00	30.86	60.34				91.20	.14	John Webster	Cooksey.

† Architect of Capitol.

A.—Surface permit work,

Number.	Locality.	Grading (cubic yards).	Curb set (linear feet).	Brick sidewalk (square yards).	Cobble or rubble (square yards).	Granite block (square yards).	Asphalt block, roadway (square yards).	Asphalt block, sidewalk (square yards).	Granolithic (square yards).	Flagging (linear feet).	Brick block (square yards).	Traps and drops (number).	Asphalt tile sidewalk (square yards).
197	1114 and 1116 V. ave.												120
198	Lots 95, 96, and 97 sq. 360		181	175	60					181			
200	302 10th st. NW			48									
201	1018 Vt. ave NW												30
202	Cor. 11th and F NW		100										
203	Cor. 10th and W NW		80	80	35					80			
204	3123 M st. NW												25
205	L. st. bet. N. Cap. and 1st NW		274	326	72					274			
206	Pa. ave. front 1100 and 1102												160
213	Intc. of N. Y. and N. J. ave's		8	8				13					
214	Pleasant st. Anacostia	84		285									
215	Arthur Place	482	1,075	1,032			1,471						
216	605 F st. NW												39
217	1439 K st. NW			4									
218	Stoughton and Chapin sts	200	360				972						
219	1128 7th st. NW												25
220	1126 7th st. NW												31
221	1347 U st. NW		19	19	7					19			
222	1321 F st. NW		28			9							45
225	1028 7th st. NW												34
226	1417 G st. NW			7									45
227	1130 7th st. NW												27
228	Alley 4½ and 6th and Pa. ave. and C NW.						95						
230	R st. Conn. ave. and 21st. NW	48	200		56					200			219
232	1003 and 1005 F st. NW		34										
233	1733 DeSales st. NW			2									26
235	9th bet. Pa. ave. and E SE	57	42	42	15					50			
236	100 to 112 L st. NW		140		47					140			140
237	1349 U st. NW		38	38	13					38			
238	Stoughton and Chapin sts	292			747					394			
239	1903 F st. NW												28
240	N. Cap. and Hets. N. W												178
241	7th and I sts. NW												40
242	1322 and 1324 18th st. NW												54
243	486 Pa. ave. NW			10				53					
244	3165 Beall st. NW						16						
245	Stoughton and Chapin NW	60	163		3					143			190
246	K bet. Del. ave. and 1st. SW		259	271	69					259	73		
247	Alley, sq. 289 NW						199						
248	Alley, sq. 638 SW	282	30	13			1,058						
249	1335 7th st. NW			2									26
250	413, 415, 6th st. SW		20										28
251	Lots 46, 47, 48, and 49 sq. 638	200	115	115	36					115			
252	15th st. bet. Benn's row and Gales st.	85	502	325	103					502			
253	Lots 19 and 20 sq. 1020	67	230	273	11					242			
254	1407 28th st. N. W		13										26
255	3209, 3211, 3213 M st. NW						99						
256	131 to 133 L st. NW		30	30	9					30			
257	1041 Mkt. Space G. T		30	30									
258	E st. NW, at herdic stables	5	50	8			27						
259	Cor. 7th and La. ave. NW		60						340				
260	Du Pont Circle and N st. NW												
261	Cor. Vt. ave. and U st. NW												174
262	1316 and 1318 L st. NW			161									
263	1113 7th st. NW												49
264	1751 L st. NW												35
265	Rear of 941 M st. NW						4						
							9						

1886 and 1887—Continued.

Estimated cost of labor.	Cost of labor.	Cost of materials.				Total cost.	Cost under estimate.	For whom done.	Overseer.
		Permit fund 1887.	Permit fund 1888.	On hand.	Property owner.				
\$68.44	\$58.16	\$158.03				\$216.19	\$10.28	Wm. M. Galt...	Calhoun.
126.45	126.45	60.54		\$12.82		199.81		D. B. Groff.....	Walters.
11.25	11.13	21.91				33.04	.12	T. E. Waggman.	Do.
12.00	11.61	46.12				57.73	.39	R. C. Fox.....	Calhoun.
5.00	5.00	72.57				77.57		Calderon Carlisle	Acker.
40.24	40.24	35.32				75.56		James Thompson.	McMurray.
10.00	9.96	33.00				42.96	.04	Oliver Offutt....	Calhoun.
180.27	159.64	130.41			\$20.50	310.55	.13	P. N. Dwyer....	McMurray.
68.40	57.60	303.30				360.90	10.80	Thos. Dowling..	Calhoun.
45.55	8.45				25.89	34.34	11.21	H. P. Pillsbury.	Do.
45.95	45.76	97.61				143.37	.19	H. A. Griswold.	Cooksey.
911.42	867.03	3,765.82			40.56	4,673.41	3.83	B. H. Warner & Co.	Dillon.
17.59	16.91	51.83				68.74	.68	A. C. Clark.....	Calhoun.
2.00	2.00					2.00		Chas. Payson...	Do.
538.08	538.08	1,930.53	\$735.67			3,204.28		Aulick Palmer..	Do.
12.42	10.35	33.37				43.72	2.07	Wm. Berens....	Do.
14.44	12.37	41.53				53.90	2.07	John Sachs....	Do.
9.97	9.09					9.09	.88	Mrs. McSwaney	McMurray.
27.60	27.27	63.30		22.50		113.07	.33	W. F. Holtzman	Calhoun.
13.60	12.37	44.92				57.29	1.23	J. P. Ardeeser..	Do.
17.60	17.17	59.75				76.92	.43	John M. Bovee..	Do.
12.42	10.60	32.82				43.42	1.82	E. Schreve.....	Do.
78.40	64.18	386.19				450.37	14.22	B. Charlton & Co	Do.
174.69	174.69	307.42		152.08		634.19		B. H. Warner & Co.	McMurray.
		25.50				25.50		T. Sommerville.	Thos. Sum-
10.40	10.40	68.40				78.80		B. Hornsby.....	merville.
44.40	40.58	24.26		20.82		85.66	3.82	B. H. Warner...	Calhoun.
93.05	91.01	305.95		120.64		517.60	2.04	J. W. Tyler.....	Dillon.
19.40	17.17	2.33				19.50	2.23	A. Greene.....	McMurray.
304.83	304.83	120.00		186.75		611.58		Aulick Palmer..	Do.
11.20	10.97	36.97				47.94	.23	G. F. Edes.....	Walters.
83.20	74.60	338.52				413.12	8.60	T. A. Rover.....	Calhoun.
16.00	12.37	120.45				132.82	3.63	C. P. Kenedy....	Do.
24.75	23.46	79.11				102.57	1.29	G. W. Leiter....	Do.
25.00	21.65	81.40				103.05	3.35	John Henderson.	Do.
37.22	7.07				29.82	36.89	.37	H. Coperthite...	Do.
139.79	84.57		338.88			423.45	55.22	Aulick Palmer..	Do.
362.00	279.87		170.16	15.75	8.57	474.35	73.56	J. H. Grant.....	McMurray.
94.96	91.48	342.89	54.04			488.41	3.48	G. E. Kenedy & Son.	Calhoun.
490.50	349.94	2,110.22				2,460.16	140.56	Ed. Temple.....	Dillon.
9.33	9.21	35.41				44.62	.12	A. M. Hudson...	Calhoun.
20.40	20.40	67.57				87.97		Balto. and Poto.	McMurray.
208.45	80.66		116.76	141.32		338.74	127.79	R. R. Co.	Dillon.
221.95	221.95	198.98		332.77		753.70		Edward Temple.	McMurray.
102.85	97.97	120.97		149.25		368.19	4.88	G. J. Mueller....	Dillon.
13.35	11.86		45.80			57.66	1.49	Mary E. Fisher.	Calhoun.
41.20	34.34		166.08			200.42	6.86	Cropley & Offutt.	Do.
13.39	13.13	3.37				16.50	.26	J. E. Healy.....	McMurray.
10.00	8.33		2.25			10.58	1.67	J. Forrest.....	Calhoun.
86.25	16.66			14.70	55.07	86.43	14.52	Herdie Phaeton Co.	Do.
*468.57	468.57		602.43			1,071.00		Fireman's Ins. Co.	Cranford.
93.10	93.00		231.48			324.48	.10	J. A. Aspenwall.	Calhoun.
63.12	7.92				33.12	41.04	22.08	D. B. Groff.....	Walters.
22.08	21.90		63.95			85.85	.18	B. W. Frazier...	Calhoun.
15.92	12.37		46.50			58.87	3.55	F. Giers' Sons..	Do.
9.27	1.51				7.67	9.18	.09	G. H. Schultz...	Do.
21.13	3.03				16.68	19.71	1.42	L. J. Davis.....	Do.

* Paid by H. L. Cranford.

A.—Surface permit work,

Number.	Locality.	Grading (cubic yards).	Curb set (linear feet).	Brick sidewalk (square yards).	Cobble or rubble (square yards).	Granite block (square yards).	Asphalt block, roadway (square yards).	Asphalt block, sidewalk (square yards).	Granolithic (square yards).	Flagging (linear feet).	Belgian block (square yards).	Traps and drops (number).	Asphalt tile sidewalk (square yards).
266	1124 8th st. NW												26
268	3139 M st. NW												31
269	1747 L st. NW						5						
270	2913 Q st. NW		21	18	5					21			
271	G st. bet. Del. ave. and $\frac{1}{2}$ SW	60	50	144	12					50			
272	1013 7th st. N. W												35
273	Alley, sq. 426						100						
274	Prospect ave. bet. 33rd and 34th NW		61	13	14					61			
276	Alley, sq. 186						380						
277	1032 and 1034 7th st. NW												69
278	129 L st. NW		16	16	8					16			
279	Brown's Court NW	46	187	195									
280	1210 Pot. st. NW		8	25									
281	504, 508, and 510 9th st. NW												116
282	Cor. 7th and E st. SE		75	68	17					75			
283	Alley, sq. 253	500		40	108	20	444						
284	Cor. 32d and O sts. NW												3
285	1604 $\frac{1}{2}$ and 1606 14th st. NW												53
286	Cor. 12th and C sts. NW						21						
287	634 Pa. ave. NW							56					
289	1332 32d st. NW			43									
290	2712 M st. NW			5			8						
291	484 Pa. ave. NW												62
292	1112 F st. NW		22	4									41
294	Lots 50, 51, 52, and 53 sq. 988		70	70	23					70			
295	SW cor. of 11th and F NW		78										
296	Monroe st. Anacostia	36		109									
298	1216 N st. NW												45
299	1332 Madison st. NW		12	10									
300	Morroe st. Anacostia	8		33									
301	Cor. 21st and I sts. NW		29	14			12						
303	Cor. 1st and Ind. ave. NW		85										116
304	H st. east, Del. ave. NE	2	10			18							
45	Bdy. st. bet. Linden and Larch	298	1,058	600	373					1,058		2	
		16,690	16,833	12,167	5,406	73	15,244	1,365	340	11,342	73	5	6,755

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 617

1886 and 1887—Continued.

Estimated cost of labor.	Cost of labor.	Cost of materials.				Total cost.	Cost under estimate.	For whom done.	Overseer.
		Permit fund 1887.	Permit fund 1888.	On hand.	Property owner.				
10.00	10.00	.....	33.72	.....	.....	43.72	.....	M. Goldsmith ...	Calhoun.
13.94	11.36	.....	40.22	.....	.....	51.58	2.58	W. F. Seymore...	Do.
10.64	1.51	.....	.....	.....	8.80	10.31	.33	Henry Luckle ..	Do.
11.13	10.85	.....	2.25	.....	.....	13.10	.28	B. H. Warner & Co.	Do.
63.00	56.17	.....	84.96	.....	.....	141.13	6.83	Robt. O'Neil....	Dillon.
17.02	15.40	.....	49.44	.....	.....	64.84	1.62	H. Burkhart ...	Calhoun.
42.50	42.39	.....	195.85	.....	.....	238.24	.11	Wm. Schwing ...	McMurray.
33.14	28.77	.....	28.93	39.04	.....	96.74	4.37	W. H. West & Bro.	Calhoun.
176.80	169.68	.....	746.48	.....	.....	916.16	7.12	J. C. Hornblower	Morrison.
39.52	29.53	.....	164.22	.....	9.94	203.69	.05	Geo. Becker ...	Calhoun.
8.38	8.08	.....	.....	.....	.....	8.08	.30	Mary Horran...	McMurray.
66.91	66.91	.....	11.25	99.77	.....	177.93	.....	B. Burnstine	Walters.
7.05	6.92	.....	11.01	.....	.....	17.93	.13	M. Blumenthal..	Calhoun.
43.60	38.62	.....	146.79	.....	.....	185.41	4.98	Mary Regan, <i>etal</i>	Do.
34.75	30.03	.....	27.86	.....	.....	57.89	4.72	E. J. Hannan ...	McMurray.
857.15	857.15	.....	876.11	.....	.....	1,733.26	.....	A. B. Mullett ...	Calhoun.
.....	.....	.....	2.70	.....	.....	2.70	.....	Dr. Becker.....	Dr. Becker.
20.40	18.84	.....	69.30	.....	.....	88.14	1.56	A. H. Lowry ...	Calhoun.
49.78	8.24	.....	.....	.....	41.38	49.62	.16	H. H. Clark & Son	Do.
15.60	15.26	.....	118.73	.....	.....	133.99	.34	F. P. May.....	Do.
11.00	10.85	.....	20.98	.....	.....	31.83	.15	Mary Hughes ..	Do.
21.91	5.55	.....	.....	.....	10.03	21.58	.33	Pearce & Lawton	Do.
24.00	24.00	.....	80.55	.....	.....	104.55	.....	Dr. Christian ...	Do.
17.40	16.53	.....	54.24	.....	.....	70.77	.87	Dr. J. M. Toner .	Do.
36.55	30.92	.....	97.81	43.00	.....	171.73	5.63	J. M. Bayne....	Morrison.
18.60	18.53	.....	74.48	.....	.....	93.01	.07	W. B. Moses ...	Calhoun.
28.00	23.65	.....	50.71	.....	.....	74.36	4.35	Dr. R. A. Pyles .	Cooksey.
22.17	16.16	.....	59.47	.....	4.58	80.21	1.43	R. Goldsmith ...	Calhoun.
3.00	3.00	.....	4.28	.....	.....	7.28	.....	M. Barrett.....	Do.
6.40	5.91	.....	11.48	.....	.....	17.39	.49	J. M. Koenig ...	Cooksey.
30.58	10.78	.....	.....	.....	19.58	30.36	.22	J. M. Dove.....	Dillon.
67.65	67.65	.....	257.19	.....	.....	324.84	.....	T. W. Smith	Morrison.
56.70	10.85	.....	.....	.....	36.46	47.31	9.39	J. P. Agnew	Walters.
699.91	697.68	1,161.63	.....	80.40	.....	1,939.71	2.23	A. L. Barber	McMurray.
22,532.40	19,524.88	46,778.26	6,323.34	3,481.41	1,281.95	77,389.84	1,725.57		

JNO. J. BURROWS,
Superintendent Streets.

B.—Permit sewer

Number.	Location.	Pipe sewers (linear feet).						Branches.	Drops.	Manholes.	Brick sewers (linear feet).	Estimated cost of labor.
		6-inch.	8-inch.	12-inch.	21-inch.	18-inch.	24-inch.					
3	G bet. 4th and 5th NE.....			117				No.	No.	No.		
4	Alley, sq. 910.....		190	55				5				\$81.90
6	M bet. N. Cap. and 1st NE.....		135	36				10		2		200.60
7	Alley, bet. M and N and 4 $\frac{1}{2}$ and Union SW.		74	200				6		1		102.00
11	R bet. 18th and 19th NW.....		91	63				20		2		150.00
12	Alley, sq. 432.....		69					5		1		98.70
13	C bet. 9th and 10th, S. E.....					146		4				69.46
14	10th bet. P and R. I. ave NW.....		127					7		1		135.00
15	Ohio ave., 14th and 15th NW.....		54					2				92.40
18	L bet. 21st and 22d NW.....		37					3				24.00
19	Alley in sq. 725.....		100					2				41.17
20	Alley in sq. 309.....			18				7	1			50.50
21	L bet. 8th and 9th NW.....		94					2				15.67
28	Alley, sq. N. of sq. 337.....		234					2				58.80
31	Alley, sq. 375.....		70					9		2		139.80
32	496 and 496 $\frac{1}{2}$ E st. SW.....		34					1				70.00
36	Alley, sq. 865.....			160				2				29.42
39	Alley, sq. 247.....		58	182				8		2		112.00
40	13th st. NW., bet. R and S.....		7					10		1		178.30
42	Alley, sq. 586.....		80					1				10.00
49	Alley, sq. 449.....	37						5				48.00
50	Alley, sq. 1023.....			400				2				18.00
54	10th bet. E and F SW.....	123	199					20		2		280.00
57	Alley, sq. 534.....		182	176				23		1		273.20
58	Alley, sq. 273.....		100					35	1	1		209.00
59	Alley, sq. 753.....		25					3				60.00
61	Alley, sq. 67.....	220						2				15.00
65	Prospect bet. Pot. and High.....		128					5		1		110.00
69	Alley, sq. 725.....		102					3				89.65
70	4th bet. F and G NE.....			173				9		1		126.25
85	S. Car. ave. bet. 11th and 12th SE.....			84				13		1		103.80
87	C bet. 6th and 7th SE.....			87				3				70.00
88	Alley in sq. 145.....	100						0				60.90
92	Alley in sq. 42.....		39									60.55
95	Mass. ave. bet. 17th and 18th W.....			50				3				31.46
96	Alley, sq. 557 NW.....			86				2				40.00
98	Alley, sq. 453 NW.....		95					1				109.50
104	Alley in sq. 161.....		140					9				57.00
108	Alley in sq. 540.....		25					5		1		91.00
115	O bet. 9th and 10th, sq. 367.....		92					2		1		15.00
116	Alley, Sq. 331.....		160	50				4				60.00
117	I bet. 6th and 7th NE.....		165					E		2		131.00
118	Alley, sq. 534 SW.....		109					9		1		105.00
119	Alley, sq. 577 SW.....		98					5				69.00
122	Bladensburgh road.....		472					7			472	54.00
127	Alley, sq. 546.....		125									1,228.03
137	Alley in sq. 546.....		155					10				81.60
138	Alley in sq. 444.....		68					13				96.00
144	N bet. N. H. ave. and 21st NW.....	17						4				49.00
148	Alley, sq. 878 *.....		274	296				1				12.80
149	E bet. 8th and 9th SE.....			122				74		2		425.61
154	Mass. av. bet. 17th and 18th NW.....			90				12				108.50
158	Alley, sq. 440.....		75					5				75.00
159	Alley, sq. 628.....			306				4				52.50
160	Alley, sq. 633.....		284					39		2		180.00
163	Alley, sq. 677.....		155	85				10		3		200.00
165	Alley, sq. 104.....		60	282				24		2		188.10
170	Alley, sq. 29.....		173					10		4		295.36
171	Alley bet. 13th and 14th and Wal-lach and U.....			308				14		1		111.71
173	Alley, sq. 805.....							54		2		227.50
175	Cor. 29th and Q NW.....			309				18		2		217.00
176	Alley, sq. 1049 NE.....			108				8				74.90
177	Cor. 2d and Va. ave. SW.....		33	237				13		1		165.20
180	Alley, sq. 564 NW.....		74	250					1			15.76
								40		2		202.20

work, 1887.

Cost of labor.	Cost of materials.			Total cost.	Cost under estimate.	For whom done.	Name of overseer.
	Permit fund.	Property owner.	On hand, 1886.				
\$73.47			\$45.26	\$118.73	\$8.43	B. Broeker	Wilson.
155.05	\$65.48	\$26.96	27.16	274.65	18.59	E. J. Hannan	Rock.
99.56	47.60		21.18	168.34	2.44	R. C. Duff	Wilson.
144.29	81.73		48.44	274.46	5.71	R. B. Clark	Rock.
98.70	44.32		21.44	164.46		F. M. Etting	Wilson.
33.70		22.10		55.80	13.66	M. A. Coyle	Rock.
135.00	62.65		82.20	279.85		P. C. Palmer	Wilson.
71.03	18.30		13.30	102.63	21.37	S. C. Kengla	Do.
23.98	6.10		5.40	35.48	.02	L. P. Shoemaker	Rock.
41.17	7.05		4.10	52.32		Wescott & Wilcox	Wilson.
50.47	23.91		11.50	85.88	.03	W. C. Dodge	Do.
4.54				4.54	11.13	A. Scheikler	Rock.
49.74	14.70		10.25	74.69	9.06	C. A. Didden	Do.
139.80	61.15		25.20	226.15		J. L. Robbins	Do.
44.69	11.55		7.20	63.44	25.31	J. B. Hamilton	Do.
20.20	8.70			28.90	9.22	F. L. Marsden	Do.
111.10	49.50		35.36	195.96	.90	W. H. Johnson	Do.
163.03	43.10	15.27	33.64	255.04		R. W. Tyler	Do.
5.05	1.00			6.05	4.95	Wm. Schultz	Do.
39.21	11.55		9.00	59.76	8.79	J. H. Knoch	Wilson.
13.54	2.10		3.57	19.21	4.46	C. A. Didden	Rock.
253.52	108.88		73.45	435.85	26.48	West Wash. Real Estate Co.	Do.
187.35	57.39	22.69	37.99	305.42	63.16	R. A. Golden	Wilson.
182.60	85.55		58.95	327.10	26.40	J. M. McDermot	Rock.
58.58	14.30		10.60	83.48	1.42	F. J. Davidson	Do.
14.64	11.00		2.90	28.54	.36	J. A. Schuger and Alice Lynch.	Do.
101.00	39.39		26.10	166.49	9.00	B. H. Warner & Co.	Do.
89.65	18.85		15.50	124.00		J. Schladt	Do.
54.89		49.78		104.67	21.58	J. H. Marr	Do.
98.47	46.34		34.78	179.59	5.33	J. C. Davidson	Do.
56.81	44.01			100.82	13.19	James McGregor	Do.
59.09	35.19			94.28	1.81	B. W. Carpenter	Do.
60.08	10.85			70.93	.47	T. H. G. Todd	Do.
18.43		10.60		29.03	2.43	Danenhower & Son	Do.
38.06	21.68			59.74	1.94	W. E. Allis	Do.
86.65	46.65	16.32		149.62	6.53	W. F. Nash	Wilson.
47.78	22.60			70.38	9.22	G. C. Walker	Rock.
90.14	51.82		9.90	151.86	.86	H. Schultz	Do.
10.22	6.73			16.95	4.78	J. F. Downey	Do.
56.81	24.25			81.06	3.19	F. T. Browning	Do.
123.97	89.62			213.59	7.03	M. Frazier	Do.
92.66	55.84			148.50	12.34	C. H. Chappel, et al.	Do.
47.94	22.10		6.00	76.04	21.06	Joseph Crabtree	Do.
37.11	19.50		5.00	61.61	16.89	J. Quinn	Do.
1,222.88	1,057.50			2,280.38	5.15	Washington Brick Machine Co.	Do.
54.50	37.61			92.11	27.10	B. H. Warner & Co.	Do.
95.06	37.55		1.20	133.81	.94	do	Do.
42.37	17.72			60.09	6.63	R. C. Hewitt	Do.
10.35	4.25			14.60	2.45	D. A. Windsor	Do.
425.61	193.42		44.55	663.58		E. J. Borream et al.	Do.
83.92	46.67			130.59	24.58	B. H. Warner & Co.	Do.
56.91	37.38			94.29	18.09	A. Cheatham	Do.
42.84	20.00			62.84	9.66	D. B. Groff	Wilson.
178.39	142.87			321.26	1.61	W. W. McCullough	Do.
141.21	103.12			244.33	58.79	B. H. Warner	Rock.
121.00	47.94	57.41		226.35	9.69	W. A. Stewart	Do.
220.15	123.78	67.66		411.59	7.55	T. M. Kerr	Wilson.
100.00	49.54	10.34		159.88	1.37	Samuel Norment	Do.
195.09	176.08			371.17	32.41	T. F. Schneider	Do.
209.42	153.57			362.99	7.58	Sterns & Lawrence	Do.
72.61	41.91			114.52	2.29	H. H. Law	Rock.
163.20	111.07			276.27		B. T. Jueneman	Do.
10.25		5.51		15.76		Baltimore and Potomac Railroad Co.	Bolden.
202.20	156.72			358.92		J. A. Tarkington	Rock.

B.—Permit sewer

Number.	Location.	Pipe sewers (linear feet).						Branches.	Drops.	Manholes.	Brick sewers (linear feet).	Estimated cost of labor.
		6-inch.	8-inch.	12-inch.	21-inch.	18-inch.	24-inch.					
82	Alley bet. 17th and 18th and O and Mass. ave.	198						No. 5	No.	No.		114.00
183	Alley, sq. 247 NW		132					10		1		80.40
185	Alley, sq. 212 NW	76	111					2	1	1		51.00
186	Alley, sq. 621 NW		249					17		1		150.00
187	Lots 742 to 753 Uniontown						158					68.75
188	Alley, sq. 859		175					18		1		122.50
191	Pa. av. bet. 19th and 20th NW			147				3		1		102.90
192	Alley, sq. 1020 SE		124	96				16		1		145.00
199	Alley, sq. 155 NW		84	159				44		1		136.00
209	Alley, sq. 943	75						3				45.00
210	Alley, sq. 838 NE		75					9				45.00
211	Alley bet. F and G and 13th and 14th NW.			209				1	1			126.07
212	Alley, sq. 513		23	62				5				65.90
223	Cor. N. J. ave. and P st. NW		105					6				65.00
224	Cong. Library, 1st st. SE				353	90			1	5		1,646.16
229	Alley, sq. 444			513				45		3		360.50
121	N bet. 2d and 3d SE		68					2				42.00
Total		846	6,187	5,516	353	236	156	824	6	59	472	11,319.98

* Compulsory.

C.—Compulsory permit

Number.	Locality.	Grading (cubic yards).	Curb set (linear feet).	Brick sidewalk (square yards).	Cobble (square yards).	Asphalt block roadway (square yards).	Asphalt tile sidewalk (square yards).	Flagging (linear feet).	Estimated cost of labor.
1	Alley, sq. 878	1,146				954			\$503.90
4	I bet. 6th and 7th NE		568	500	188			566	315.45
7	L bet. N. Cap. and 1st NW		451	451	150			451	260.90
10	Alley, sq. 541	103				208			99.30
11	1502 14th st. NW						69		31.14
12	T bet. 8th and 9th NW	118	189	167	66			197	126.32
13	Alley, sq. 242					765			366.32
Total		1,637	1,208	1,118	404	1,927	69	1,214	1,703.33

work, 1887—Continued.

Cost of labor.	Cost of materials.			Total cost.	Cost under estimate.	For whom done.	Name of over- seer.
	Permit work.	Property owner.	On hand, 1886.				
\$91.47	\$32.33	.....	.....	\$123.80	\$22.53	T. M. Bayne.....	Rock.
79.13	50.09	.....	.....	129.22	1.27	J. M. Greene	Do.
45.80	69.97	.....	.....	115.77	5.20	Dr. J. M. Toner.....	Do.
90.60	77.54	.....	.....	168.14	59.40	W. W. McCullough.....	Wilson
68.01	177.88	.....	.....	245.89	.74	E. Temple.....	Rock.
81.30	69.28	.....	.....	150.58	41.20	B. H. Warner & Co.....	Do.
94.71	73.68	.....	.....	168.39	8.19	Wescott & Wilcox	Do.
106.39	86.95	.....	.....	193.34	38.61	G. J. Mueller	Wilson.
136.00	108.05	.....	.....	244.05	.....	Wm. M. Folger.....	Do.
35.60	16.44	.....	.....	52.04	9.40	E. J. Hannan	Rock.
41.24	19.90	.....	.....	61.14	3.76	John T. Loane.....	Do.
126.07	108.36	.....	.....	234.43	.....	A. B. Mullet.....	Wilson.
47.29	27.26	\$7.12	.....	81.67	11.49	W. C. Goodwin	Rock.
53.87	24.90	.....	.....	78.77	11.13	B. Murphy	Do.
1,077.76	.....	568.40	.....	1,646.16	.....	Congressional Library Com- mission.	Wilson.
331.12	250.88	.....	.....	582.00	29.38	James F. Barbour.....	Rock.
82.03	17.20	.....	.....	49.23	9.97	A. Mathews	Wilson.
9,572.12	5,162.44	880.16	\$731.12	16,345.84	867.70		

JNO. J. BURROWS,
Superintendent of Streets.

work, 1887 and 1888.

Estimated cost of ma- terial.	Cost of labor to Dis- trict of Columbia.	Cost of labor paid by property owner.	Cost of material from permit fund to Dis- trict Columbia, 1888.	Cost of labor assessed to property owner.	Total cost.	Amount to be returned.	For whom done.	Overseer.
\$1,880.90	\$656.08	.....	\$1,767.50	\$656.08	\$2,423.58	.....	E. J. Borream	Cooksey.
756.39	213.78	\$71.65	877.28	213.78	1,162.71	\$16.65	L. Chappel.....	Morrison.
253.74	219.20	26.85	133.69	219.20	379.74	.....	G. W. Sargeant ...	McMurray
480.48	.....	84.06	480.48	.....	564.54	15.24	P. N. Dwyer	Cooksey.
91.26	.....	19.19	91.26	.....	110.45	11.95	S. E. Lewis	Morrison.
54.87	110.62	.....	88.88	110.62	199.50	.....	G. W. Utermuhle .	Do.
1,559.50	393.61	.....	1,570.50	393.61	1,964.11	.....	W. H. Price.....	Calhoun.
5,077.14	1,593.29	201.75	5,009.59	1,593.29	6,804.63	43.84		

JNO. J. BURROWS,
Superintendent of Streets.

APPENDIX 10.

REPORT OF SUPERINTENDENT OF SEWERS.

OFFICE OF THE ENGINEER COMMISSIONER,
Washington, D. C., August 20, 1887.

COLONEL: I have the honor to submit the following report of the operations of the Engineer Department relating to sewers for the year ending June 30, 1887. On the 25th day of March, 1887, I was appointed acting superintendent of sewers, and on the 1st day of April, 1887, I assumed charge of the sewer division.

During the year 1886-'87 the boundary sewer was practically finished; the upper portion of the North Capitol street sewer was cut off from the upper Tiber valleys, and a conduit was constructed to intercept sewage coming from the northwest and carry it into the North Capitol street sewer. The boundary sewer is made in this way to carry the storm waters to the Eastern Branch of the Potomac River, while the sewage from the northwest boundary area is diverted into the old Tiber sewer system.

CONSTRUCTION OF SEWERS.

Amount appropriated for sewers, 1886-1887, \$45,000. Under this appropriation there was constructed, under contracts Nos. 728 and 730, sewers and their appurtenances as follows: 18,473.2 linear feet of pipe sewers 12 inches in diameter; 3,350.5 linear feet of pipe sewers 15 inches in diameter; 2,075.5 linear feet of pipe sewers 18 inches in diameter; 405 linear feet of pipe sewers 24 inches in diameter; 1,130 linear feet of egg-shape section brick sewers $2\frac{1}{2}$ by $3\frac{3}{4}$ feet; 389 linear feet of circular section brick sewer 3 feet in diameter, and 56 receiving basins.

The details of these constructions are shown in Appendix A.

CLEANING SEWERS AND BASINS.

Amount appropriated, 1886-'87	\$25,000.00
Pipe sewers cleaned.....linear feet..	129,785
Brick sewers cleaned.....do.....	685
Pipe sewers laid	1,250
Receiving basins cleaned.....number..	37,207
Receiving basins repaired.....do.....	317
Man-holes constructed	9
Man-holes repaired.....do.....	88
Receiving basins trapped	1
New stone covers set	14
Outlet caps to traps put in	47
Receiving basins constructed	29
Minor repairs to sewers	133

Among works of repair may be noted the 12-inch pipe sewer on the north side of O street northwest, between Fifteenth and Sixteenth streets.

Sections of the sewer were taken up, and after the removal of roots between the sections the sewer taken up was relaid in concrete. It was found that the bands around these pipes were generally well cemented and the pipes were in fair alignment. The roots came into the pipes through a space (generally about 2 inches by three-eighths of an inch in sectional area) between the bands and the pipes at the lowest portion of the pipe, which seems to indicate that the pipes were

laid with running water in the bottom of the trench, which washed off the mortar from the lowest part of the bands before the pipes were placed in position upon them.

I will note also the pipe sewer on the east side of Thirteen-and-a-half street southwest, as an illustration of a class of sewers of which many exist in Washington.

The levels taken at the man-holes indicated that the sewer had a proper gradient, but it was found in taking up sections of the sewer intermediate between the man-holes that both the alignment and gradients were very defective, vertical sags and bows existing in several places 6 and 7 inches in extent.

Another thing of interest was found in the fact that the Y branch pipes were 12 inches in diameter, being inserted in the 15-inch pipes of the main sewer, reducing its capacity and affording a place for lodgment of solids.

PERMIT WORK.

Appropriated for materials, 1886-1887	\$45,000
Appropriated for materials, 1887-1888	90,000
Pipe sewers constructed	linear feet.. 20,106
Brick sewers constructed	do 472
Concrete sewers constructed	do 145
Receiving basins constructed	number.. 112
Cost of materials to permit fund, 1886-'87	\$5,204.87
Cost of materials to permit fund, 1887-'88	2,491.00
Cost of materials on hand used	2,491.57
Cost of materials to property owner	1,086.20
Cost of labor to property owner	14,737.68
Total cost	26,011.32

The details of these constructions are shown in Appendix B.

The use of cements on sewer work, according to existing methods, does not give the best possible results. The cements used are tested by samples taken from the various works, and it is known at the expiration of a week if the cement used is of good or poor quality. In the meantime the cement is being used upon the work, the reputation of the brand of cement used being the security to the District against possible bad material. It would be better for the District to purchase and issue all cements, for in that way only is it possible to know the character of the cements used. This will require the construction of a cement house in one of the District property yards.

CONSTRUCTION OF SEWERS.

I respectfully suggest the following sewers for construction during the next fiscal year:

Completion of Tennessee avenue main sewer	\$6,000
Extension of Twelfth street sewer, from South Carolina avenue to B street south, and from its present outlet to the river	12,000
Extension of Ninth street sewer, from M to O streets southeast	5,000
Extension of Sixth street sewer to deep water west side of Navy-yard	19,000
Construction of main sewer on T street, Tenth to Thirteenth streets northwest	4,500
Suburban:	
Extension of First street sewer, northward from Boundary street northwest	12,000
Construction of Sherman avenue sewer, Irving street to Wallach street ..	7,650
Construction of Columbia Road sewer, Boundary street to Nineteenth street	5,000

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24-inch pipe sewers.....	\$6,600
18-inch pipesewers.....	4,000
15-inch pipe sewers.....	1,500
12-inch pipe sewers.....	25,000
Replacing obstructed sewers.....	15,000
Materials for permit sewers.....	15,000
Compulsory sewerage.....	15,000
Construction of receiving basins.....	6,000

Probably the most important project for sewer work in this city is that having its aim the intercepting of sewage from the present main sewers and its conveyance to deep water.

The sewage pollution of James Creek Canal, Seventeenth Street Canal, and Rock Creek have become sources of reasonable complaints, and the health of the community will suffer if these outlets are left to discharge their loads of sewage into these shallow canals, which will become worse every year with the added burdens of filth due to the increase of population.

I respectfully recommend that an appropriation of \$5,000 be requested for the necessary examinations and plans.

CLEANING AND REPAIRING SEWERS AND BASINS.

With the increase of sewers and of population comes increased expenditure necessary to clean and repair existing sewers. The appropriation for the current year is \$30,000, which is too little for the work necessary to be performed.

I respectfully recommend that the sum of \$35,000 be requested for this work.

SUMMARY OF ESTIMATES.

Construction of main sewers.....	\$71,150	
Construction of pipe sewers.....	37,100	
Replacing old sewers.....	15,000	
		\$123,250
Material for permit sewers.....		15,000
Compulsory sewerage.....		15,000
Cleaning and repairing sewers and basins.....		35,000
Project for sewage interception.....		30,000
Sewer department:		
Superintendent of sewers.....	\$2,400	
Inspector of sewerage.....	1,500	
Clerk.....	1,200	
Clerk.....	900	
Assistant engineer.....	1,500	
Rodman.....	780	
Axman.....	650	
		8,930
Cement-house.....		1,000
Construction of receiving basins.....		6,000
Total.....		234,180

The present method of paying laborers employed on sewer work is unsatisfactory.

The amount due each laborer is paid at the office of the auditor by checks upon the Treasurer of the United States. The men, as a rule, experience difficulty in getting cash for these checks, and in many cases have to pay for this accommodation. Again, it is not always possible to know when the checks are ready for delivery, and it is often that the men are compelled to wait about the office and lose time from their work, to the prejudice of the work and their own pecuniary loss.

Upon work done under the permit system, the collector of taxes, who holds the funds deposited to pay for labor, gives a check upon a local bank, payable to the superintendent of sewers, who disburses the money upon the works. It is my opinion that the permit rolls should be paid by the auditor, and that all laborers' accounts should be paid in cash upon the works. This would be an inducement, enabling the District to retain good men, and would save to the District money now wasted by present methods.

Very respectfully,

D. E. McCOMB,
Acting Superintendent of Sewers.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

H. Ex. 1, pt. 6—40

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APPENDIX A.—Permit sewers.

Number.	Location.	Pipe-sewers (linear feet).						Brick sewers (linear feet).	Concrete (linear feet).	Man-holes.	Branches.	Basins.	Estimated cost of labor.	Cost of labor.
		6-inch.	8-inch.	12-inch.	15-inch.	18-inch.	21-inch.							
										No.	No.	No.		
2	Conn. ave. bet. R. I. ave. and N.	....	140	....	....	....	....	....	....	1	4	....	\$98.00	\$91.51
33	Conn. ave. extended.....	....	378	....	....	406	166	....	....	2	....	....	715.00	534.81
36	Mass. ave. bet. 6th and 7th NE.	....	....	160	....	....	....	....	....	2	8	....	112.00	111.10
95	Mass. ave. bet. 17th and 18th NW.	....	....	50	....	....	....	....	....	....	2	....	40.00	38.06
182	do.....	198	....	....	....	....	....	....	....	....	5	....	114.00	91.47
154	do.....	....	....	90	....	....	....	....	....	....	5	....	75.00	56.91
176	Md. ave. bet. 14th and 15th NE.	....	....	237	....	....	....	....	....	1	13	....	165.20	165.20
9	N. J. ave. bet. D and E SE.	....	....	103	....	....	....	....	....	1	6	....	58.10	58.10
223	N. J. ave. bet. O and P NW.	....	105	....	....	....	....	....	....	....	6	....	65.00	53.87
15	Ohio ave. bet. 14th and 15th NW.	....	54	....	....	....	....	....	....	....	3	....	24.00	23.98
191	Pa. ave. bet. 19th and 20th NW.	....	....	147	....	....	....	....	....	1	3	....	102.90	94.71
85	S. C. ave. bet. 11th and 12th SE.	....	....	84	....	....	....	....	....	....	3	....	70.00	56.81
20	A bet. 8th and 9th SE.....	....	....	....	....	....	....	....	....	*1	....	....	18.00	1.55
122	Bladensburg road.....	....	....	....	....	....	....	472	....	....	....	....	1,228.03	1,222.88
158	Bdy. bet. 6th and 7th NW.	....	75	....	....	....	....	....	....	....	4	....	52.50	42.84
87	C bet. 6th and 7th SE.....	....	....	87	....	....	....	....	....	....	6	....	60.90	59.08
13	C bet. 9th and 10th SE.....	....	....	....	....	146	....	....	....	1	7	....	135.00	135.00
36	D bet. 6th and 7th SE.....	....	....	12	....	....	....	....	....	....	3	....	12.00	11.57
32	E bet. 4th and 5th SW.....	....	34	....	....	....	....	....	....	....	2	....	29.42	20.20
149	E bet. 8th and 9th SE.....	....	....	122	....	....	....	....	....	....	12	....	108.50	83.92
24	F bet. 3d and 4th NW.....	....	....	108	....	....	....	....	....	1	3	....	125.00	64.46
2	G bet. 4th and 5th NE.....	....	....	117	....	....	....	....	....	....	5	....	81.90	73.47
192	G bet. 4th and 5th SE.....	....	124	96	....	....	....	....	....	1	16	....	145.00	106.39
12	G bet. 21st and 22d NW.....	....	....	53	....	....	....	....	....	1	4	....	69.15	69.15
43	H bet. 12th and 13th NE.....	....	....	60	....	....	....	....	....	1	2	....	72.00	34.03
21	L bet. 8th and 9th NW.....	....	94	....	....	....	....	....	....	....	2	....	58.80	49.74
18	L bet. 21st and 22d NW.....	....	37	....	....	....	....	....	....	....	2	....	41.17	41.17
6	M bet. N. Cap. and 1st NW	....	135	36	....	....	....	....	....	1	6	....	102.00	99.56
144	M bet. N. H. ave. and 21st NW.	17	....	....	....	....	....	....	....	....	1	....	12.80	10.35
121	N bet. 2d and 3d SE.....	....	68	....	....	....	....	....	....	....	2	....	42.00	32.03
37	N. Cap. and B. sts.....	....	....	179	....	....	....	....	....	2	4	....	119.00	100.86
39	N. Cap. bet. K and L sts.....	....	....	146	....	....	....	....	....	2	4	....	....	111.19
115	O bet. 9th and 10th NW.....	....	92	....	....	....	....	....	....	....	4	....	60.00	56.81
11	P bet. 34th and 35th NW.....	....	70	....	....	....	....	....	....	1	5	....	54.60	50.85
65	Q bet. 32d and 33d NW.....	....	128	....	....	....	....	....	....	....	3	....	89.65	89.65
28	Q bet. 10th and 11th NW.....	....	234	....	....	....	....	....	....	2	9	....	139.80	139.80
16	Q bet. 28th and 29th NW.....	....	....	87	....	....	....	....	....	1	3	....	56.70	55.34
11	R bet. 18th and 19th NW.....	....	91	63	....	....	....	....	....	1	5	....	98.70	98.70
10	Stoughton west of 14th extended	....	....	407	....	....	....	....	....	3	16	....	280.00	280.00
31	T bet. 12th and 13th NW.....	....	....	223	....	....	....	....	....	2	7	....	101.25	97.89
7	1st bet. E Cap. and A NE.....	....	....	38	....	....	....	....	....	1	2	....	20.00	18.39
224	1st bet. A and B SE.....	....	....	....	....	90	350	....	....	5	1	....	1,646.16	1,077.76
177	2d and Va. ave. SE.....	....	33	....	....	....	....	....	....	1	1	....	15.76	10.25
70	4th bet. F and G NE.....	....	....	173	....	....	....	....	....	1	13	....	103.80	98.47
173	5th bet. L and M NE.....	....	....	309	....	....	....	....	....	2	....	12	217.00	209.42
23	6th bet. Q and R NW.....	....	....	177	....	....	....	....	....	2	8	....	119.00	118.99
49	7th bet. L and M NW.....	....	37	....	....	....	....	....	....	....	2	....	18.00	13.54
54	10th bet. D and E SW.....	123	159	....	....	....	....	....	....	1	23	....	273.20	187.35
14	10th bet. P and R. I. ave.....	....	127	....	....	....	....	....	....	....	2	....	92.40	71.03
116	10th bet. V and W NW.....	....	160	50	....	....	....	....	....	2	8	....	131.00	123.97
22	11th bet. E. Cap. and N NE.....	....	....	115	....	....	....	....	....	1	2	....	84.00	83.78
35	12th bet. H and I NE.....	....	160	....	....	....	....	....	....	....	8	....	168.00	106.65
25	12th bet. M and N SE.....	....	....	....	....	....	....	....	145	....	....	....	....	861.08
58	12th bet. U and V NW.....	....	100	....	....	....	....	....	....	....	3	....	60.00	58.58
40	13th bet. R and S NW.....	....	7	....	....	....	....	....	....	....	1	....	10.00	5.05
34	13th extended bet. Bdy. and Clifton	....	....	450	....	....	....	....	....	3	18	....	455.00	348.40
3	26th bet. Va. ave. and I NW	....	....	138	....	....	....	....	....	....	0	....	100.80	100.80
175	29th bet. Q and road NW.....	....	....	108	....	....	....	....	....	....	3	....	74.90	72.61
170	Alley in sq. 29.....	....	173	....	....	....	....	....	....	1	14	....	111.71	100.00
92	Alley in sq. 42.....	....	39	....	....	....	....	....	....	....	8	....	31.46	18.43
29	Alley in sq. 54.....	....	....	170	....	....	....	....	....	2	5	....	119.00	119.00

* Lowered.

APPENDIX A.—Permit sewers.

Cost of materials.				Total cost.	Amount returned.	For whom done.	Overseer.	Date of completion.
Permit fund, 1887.	Permit fund, 1888.	Property owner.	On hand.					
	\$45.84		\$22.95	\$160.30	\$6.49	Hornblower & Marshall	Rock	Apr. 14, 1887
	234.51		412.05	1,181.37	180.19	Geo. Truesdell	Wilson	June 29, 1887
\$19.50			35.36	195.98	.90	W. H. Johnson	Rock	
21.68				59.74	1.94	W. E. Allis	do	
32.33				123.80	22.53	T. M. Bayne	do	
37.38				94.29	18.00	A. Cheatham	do	
111.07				276.27		B. F. Juenemann	do	
	32.66		17.70	108.46		John Miller	Wilson	Apr. 30, 1887
24.90				78.77	11.13	B. Murphy	Rock	
6.10			5.40	35.48	.02	L. P. Shoemaker	do	
73.68				168.39	8.19	Wescott & Wilcox	do	
44.01				100.82	13.19	James McGregor	do	
				1.55	16.45	M. A. Hendley	Smith	June 20, 1887
1,057.50				2,280.38	5.15	Wash. Brick Machine Co.	Wilson	
20.00				62.84	9.66	D. B. Groff	do	
35.19				94.27	1.82	B. W. Carpenter	Rock	
62.65			82.20	279.85		P. C. Palmer	Wilson	
	1.50		2.82	15.89	.43	C. W. King	Rock	June 25, 1887
8.70				28.90	9.22	F. L. Marsdon	do	
46.67				130.59	24.58	B. H. Warner & Co	do	
	\$50.58			115.04	9.96	M. Menke	do	June 17, 1887
			45.26	118.73	8.43	B. Broecker	Wilson	
86.95				193.34	38.61	G. J. Muller	do	
	22.91		9.55	101.61		Raleigh Sherman	do	May 30, 1887
		34.10		68.13	3.87	Ida Gaier	Rock	June 21, 1887
14.70			10.25	74.69	9.06	C. A. Diddon	do	
7.05			4.10	52.32		Wescott & Wilcox	Wilson	
47.60			21.18	168.34	2.44	R. C. Duff	do	
4.25				14.60	2.45	D. A. Winsor	Rock	
17.20				49.23	9.97	A. Mathews	Wilson	
	62.84		29.92	193.62	18.14	Samuel Shellabarger	Rock	June 29, 1887
	62.54		26.59	200.32		Inspector buildings	do	June 25, 1887
24.25				81.06	3.19	F. T. Browning	do	
	23.97		7.60	82.42	3.75	Jno. D. Weaver	Wilson	June 1, 1887
18.85			15.50	124.00		Hay scales	do	
61.15			25.20	226.15		J. L. Robbins	Rock	
	33.02		15.45	103.81	1.36	Louis Mackall	Wilson	May 18, 1887
44.32			21.44	164.46		T. M. Etting	do	
	141.08		67.45	488.53		A. C. Peale	Rock	May 13, 1887
	58.54		23.35	179.78	3.36	A. Richards	do	June 30, 1887
	22.31		4.55	45.25	1.61	N. G. Ordway	Wilson	Apr. 28, 1887
		568.40		1,646.16		Cong. Lib. Commissioners	do	
46.34		5.51		15.76		B & O R. R. Co	Bolden	
153.57			31.78	179.59	5.33	J. C. Davidson	Rock	
	63.00		28.95	362.90	7.58	Stevens & Laurence	Wilson	
2.10			3.57	210.94	.01	Theo. Plitt	Rock	May 27, 1887
57.39		22.69	37.99	305.42	63.16	C. A. Diddon	do	
18.30			13.30	102.63	21.37	R. A. Golden	Wilson	
89.62				213.59	7.03	S. C. Kengle	do	
	30.05		18.05	131.88	.22	M. Frazier	Rock	
	51.57			158.22	9.78	J. W. Bayne	do	May 23, 1887
	564.33		434.52	1,859.93		J. S. Boss	do	June 21, 1887
14.30			10.60	83.48	1.42	Wash. Gas-Light Co	Wilson	July 1, 1887
1.00				6.05	4.95	F. J. Davidson	Rock	
	136.26		77.70	562.36	106.60	W. Shultz	do	
	28.50		23.40	152.70		A. L. Barber	do	July 15, 1887
41.91				114.52	2.29	James McLaughlin	do	Apr. 18, 1887
49.54		10.34		159.88	1.37	H. H. Low	Wilson	
		10.60		29.03	2.43	Samuel No men	Rock	
	57.82		29.50	206.32		Danenhow & Son	do	
		69.79		132.29		Wescott & Wilcox	Wilson	June 7, 1887
						L. H. Schneider	do	May 16, 1887

APPENDIX A.—Permit sewers.

Number.	Location.	Pipe-sewers (linear feet).							Brick sewers (lin ear feet).	Concrete sewers (linear feet).	Man-holes.	Branches.	Basins.	Estimated cost of labor.	Cost of labor.
		6-inch.	8-inch.	12-inch.	15-inch.	18-inch.	21-inch.	24-inch.							
17	Alley in sq. 56		142								No. 1	No. 2		\$132.29	\$62.50
61	Alley in sq. 67	220									1	5		110.00	101.00
8	Alley in sq. 79			282							3	10		216.10	216.10
30	Alley in sq. 82			43								5		35.00	35.00
21	Alley in sq. 85			216							2	12		147.00	141.22
165	Alley in sq. 104		60	282							4	10		295.36	220.15
88	Alley in sq. 145	100												60.55	60.08
199	Alley in sq. 155		84	159							1	5		136.00	136.00
104	Alley in sq. 161		140								1	5		91.00	90.14
182	Alley in sq. 181	198										2		114.00	91.47
185	Alley in sq. 212	76	111								1	9		51.00	45.80
19	Alley in sq. 214			274							2	54		196.00	195.47
171	Alley in sq. 237			308							2	6		227.50	195.09
28	Alley in sq. 241			93							1	10		71.40	71.40
183	Alley in sq. 247		132								1	10		80.40	79.13
39	Alley in sq. 247		58	182							1	1		178.30	163.03
211	Alley in sq. 253			209								2		126.07	126.07
20	Alley in sq. 309			18								2		15.67	4.54
31	Alley in sq. 375		70									1		70.00	44.69
12	Alley in sq. 432		69									4		69.46	33.70
138	Alley in sq. 444		68									4		49.00	42.37
220	do			513							3	45		360.50	331.12
98	Alley in sq. 453		95									9		57.00	47.78
7	Alley in sq. 502		74	200							2	20		150.00	144.29
14	Alley in sq. 503			245							2	10		147.00	137.60
212	Alley in sq. 513		23	62								5		65.90	47.29
57	Alley in sq. 534		182	176							1	35	1	209.00	182.60
118	do		109									5		69.00	47.94
108	Alley in sq. 540			25								2		15.00	10.22
137	Alley in sq. 546		155									13		96.00	95.06
127	do		125									10		81.60	54.50
96	Alley in sq. 557			86								1		109.50	86.65
1	do			183							2	11		109.90	109.90
180	Alley in sq. 564		74	250							2	40		202.20	202.20
119	Alley in sq. 577		98									7		54.00	37.11
42	Alley in sq. 586		80									5		48.00	39.21
186	Alley in sq. 621		249								1	17		150.00	90.60
4	do			270							2	35		162.00	162.00
15	Alley in sq. 624			39								6		31.50	31.50
26	do											4		20.00	16.01
159	Alley in sq. 628			306							2	39		180.00	178.39
160	Alley in sq. 633		284								3	10		200.00	141.21
13	Alley in sq. 640		229	74							2	23		172.35	124.92
27	Alley in sq. 674			104							1	16		69.30	67.60
163	Alley in sq. 677		155	85							2	24		188.10	121.00
19	Alley in sq. 725		100									7		50.50	50.47
69	do		102								1	9		126.25	54.89
59	Alley in sq. 753		25									2		15.00	14.64
210	Alley in sq. 838		75									9		45.00	41.24
117	Alley in sq. 858		165								1	9		105.00	92.66
188	Alley in sq. 859		175								1	18		122.50	81.30
5	Alley in sq. 867			310							2	19		180.00	140.00
148	Alley in sq. 878		274	296							2	74			425.61
4	Alley in sq. 910		190	55							2	10		200.60	155.05
209	Alley in sq. 943	75										3		45.00	35.60
6	Alley in sq. 1004			453							4	50		322.00	204.48
50	Alley in sq. 1023		400								2	20		280.00	253.52
187	Anacostia, D. C							156						68.75	68.01

RECAPITULATION.

Pipe-sewers, linear feet:	
6-inch.....	1,044
8-inch.....	6,671
12-inch.....	10,605
18-inch.....	642
21-inch.....	166
24-inch.....	506
Brick sewers, linear feet.....	472
Concrete sewers, linear feet.....	145
Number of man-holes.....	111
Number of branches.....	1,065
Estimated cost of labor.....	\$15,864.88
Cost of labor.....	14,737.61

APPENDIX A—Permit sewers.

Cost of materials.				Total cost.	Amount returned.	For whom done.	Overseer.	Date of completion.
Permit fund, 1887.	Permit fund, 1888.	Property owner.	On hand.					
\$39.39			\$26.10	\$166.49	\$9.00	B. H. Warner & Co	Rock	
	\$97.99		47.50	361.59		Jno. H. Byram	Wilson	May 12, 1887
	10.20		8.45	53.65		Oliver Cox	do	June 8, 1887
	77.92		38.10	257.24	5.78	B. H. Warner & Co	do	May 31, 1887
123.78		\$67.66		411.59	7.55	T. M. Kerr	do	
10.85				70.93	.47	T. H. G. Todd	do	
108.05				244.05		W. M. Folger	do	
51.82			9.90	151.86	.86	H. Shultz	Rock	
32.33				123.80	22.53	T. M. Bayne	do	
69.97				115.77	5.20	J. M. Toner	do	
	88.36		48.50	332.33	.53	C. W. Perkins	Wilson	May 26, 1887
176.08				371.17	32.41	T. F. Schneider	do	
	34.24		16.95	122.59		S. S. Shedd	Rock	June 3, 1887
50.09				129.22	1.27	J. M. Green	do	
43.10		15.27	33.64	255.04		R. W. Tyler	Rock	
108.36				234.43		A. B. Mullett	Wilson	
				4.54	11.13	A. Scheikler	do	
11.55			7.20	63.44	25.31	J. B. Hambleton	do	
		22.10		55.80	13.66	M. A. Coyle	do	
17.72				60.09	6.63	R. O. Hewitt	do	
250.88				582.00	29.38	J. T. Barbour	do	
22.60				70.38	9.22	G. C. Walker	do	
81.73			48.44	274.46	5.71	R. B. Clark	do	
	82.87		40.75	261.22	9.40	R. B. Deitrick	do	May 20, 1887
27.26		7.12		81.67	11.49	W. C. Goodwill	do	
85.55			58.95	327.10	26.40	J. M. McDermott	do	
22.10			6.00	76.04	21.06	Jos. Crabtree	do	
6.73				16.95	4.78	J. T. Downey	do	
37.55			1.20	133.81	.94	B. H. Warner	do	
37.61				92.11	27.10	do	do	
46.65		16.32		149.62	6.53	W. F. Nash	do	
	68.38		32.40	210.68		Jas. A. Healy	Curtis	May 5, 1887
156.72				358.92		J. A. Tarkington	Rock	
19.50			5.00	61.61	16.89	J. Quinn	do	
11.55			9.00	59.76	8.79	J. H. Knoch	Wilson	
77.54				168.14	59.40	W. W. McCullough	do	
	81.04		54.50	297.54		P. W. Dyer	Curtis	May 18, 1887
	11.12		10.05	52.67		J. A. Tarkington	Brenizer	May 23, 1887
	2.85		2.60	21.46	3.99	J. E. Mason	do	May 21, 1887
142.87				321.26	1.61	W. W. McCullough	Wilson	
103.12				244.33	58.79	B. H. Warner	Rock	
	56.27		40.85	222.04	47.43	Medford & Waldron	do	May 17, 1887
	29.78		22.00	119.38	1.70	Jos. Burden	do	May 31, 1887
47.94		57.41		226.35	9.69	W. A. Stewart	do	
23.91			11.50	85.88	.03	W. C. Dodge	Wilson	
		49.78		104.67	21.58	J. H. Marr	Rock	
11.10			2.90	28.64	.36	Alice Lynch	do	
19.90				61.14	3.76	J. T. Loane	do	
55.84				148.50	12.34	C. H. Chappel	do	
69.28				150.58	41.20	B. H. Warner & Co	do	
	89.28		57.75	327.03		L. G. Milvich	do	Apr. 27, 1887
203.42			44.55	673.58		Compulsory	do	
65.48		26.96	27.16	274.65	18.59	E. J. Hannan	do	
16.44				52.04	9.40	J. A. Babson	do	
	139.02		87.95	431.45	117.52	W. E. Burford	do	May 2, 1887
108.88			73.45	435.85	26.48	W. Wash. Real Estate Co.	do	
177.88				245.89	.74	E. Temple	do	

RECAPITULATION.

Cost of materials:	
Permit fund, 1887	\$5, 204.87
Permit fund, 1888	2, 491.00
Property owners	1, 086.20
On hand	2, 491.57
Total cost	26, 611.32
Amount returned	1, 438.81

APPENDIX 11.

REPORT OF SUPERINTENDENT OF ROADS.

SEPTEMBER 14, 1887.

COLONEL: I have the honor to submit herewith statement of expenditures under my supervision from the following appropriations during the fiscal year 1886-'87: Repairs to county roads; opening and extending suburban streets; sweeping, cleaning, and sprinkling streets, avenues, and alleys; repairs to bridges; ordinary care of Benning's, Anacostia, and Chain bridges; bridge-keeper Chain Bridge; current repairs streets, avenues, and alleys.

Very respectfully,

GEO. N. BEALE,
Superintendent of Roads.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

Expenditures on various county roads during fiscal year 1886-'87.

Location.	Amount.	Location.	Amount.
Eastern section:		Western section—Continued.	
Anacostia road	\$428. 93	Howard street (Reno)	\$15. 00
Benning's road	377. 79	Varnell lane	58. 35
Bowen road	675. 89	Nourse avenue	56. 85
Central avenue	362. 81	Material for general use	56. 52
Giesboro road	399. 31	Blacksmithing	133. 20
Good Hope road	342. 85	Miscellaneous	310. 11
Hamilton road	308. 67		
Harrison street	39. 28	Total expended in section	14, 993. 12
Howardtown roads	178. 55		
Jackson street	2. 25	Central section:	
Livingston road	338. 35	Bates road	151. 57
Monroe street	201. 68	Benning's road	15. 25
Morris road	12. 25	Blair road	102. 52
Nichols avenue	513. 76	Bladensburg road	4, 930. 45
Race-course road	124. 90	Brentwood road	153. 33
Sheridan avenue	4. 50	Bunker Hill road	488. 70
Sheriff road	121. 45	Central avenue No. 1	19. 50
Staunton avenue	100. 25	Clifton street	23. 62
Suit road	67. 38	Champlain avenue	525. 52
Wheeler road	143. 86	Columbia road	105. 74
Walker road	90. 12	Fourteenth street	825. 41
Griffith road	23. 63	Grant street	5. 42
Material for general use	93. 15	Harewood road	281. 61
Blacksmithing	60. 72	Howard street	4. 75
Miscellaneous	263. 10	Lincoln avenue	47. 78
Total expenditure in section ..	5, 275. 43	Linnaen Hill road	564. 29
Western section:		Military road	113. 43
Brookville road	86. 25	Mount Olivet road	1. 50
Broad Branch road	120. 87	Nineteenth street road	61. 25
Canal road	41. 56	Oak street	23. 00
Chain Bridge road	75. 00	Park street	103. 21
Chappell road	45. 43	Patterson avenue	20. 32
Daniels road	153. 51	Prospect street	3. 50
Foxhall road	29. 50	Queen Chapel road	182. 06
Grant road	154. 05	Riggs road	72. 70
Klingie road	13. 00	Rock Creek Ford road	52. 14
Loughboro road	588. 70	Rock Creek Church road	2, 835. 13
Military road	75. 75	Sandy Spring road	6. 40
Murdock's Mill road	127. 50	Sargeant road	4. 12
New Cut road	518. 07	Schuetzen Park lane	28. 06
Pierce Mill road	323. 48	School street	2. 13
Red Lane road	43. 00	Seventh Street road	3, 857. 56
Ridge road	129. 07	Shepherd road	4. 48
River road	71. 45	Sixteenth Street road	61. 61
Rock Creek Ford road	65. 24	Sixth street	8. 62
Tennallytown road	11, 189. 02	Spring street	110. 62
Tunlaw road	208. 45	Thirteenth street road	109. 86
Woodley Lane road	242. 64	Whitney avenue	38. 87
Old Chain Bridge road	61. 55	Chapin street	320. 55
		Klingie road	78. 00
		Eighth street	8. 37

Expenditures on various county roads during fiscal year 1886-'87—Continued.

Location.	Amount.	Location.	Amount.
Central section—Continued:		Expenditures, etc.—Continued.	
Spofford road	\$8.25	Cleaning gutters, etc.—Continued.	
Material, general use	105.27	Western section:	
Blacksmithing	110.02	Tennallytown road	\$21.00
Miscellaneous	433.23	Grant road	2.50
Total expenditure in section.	17,004.66	Pierce Mill	1.25
Summary:		Two sprinkling carts for gen-	
Eastern section	5,275.43	eral use	200.00
Western section	14,993.12	One sprinkling wagon for gen-	
Central section	17,004.66	eral use	210.00
Total	37,273.21	Total	1,245.92
Amount of appropriation	40,000.00	Expenditures from appropriation re-	
Total expenditure	37,273.21	pairs to bridges, 1886-'87, on bridges	
Balance	2,726.79	in county:	
Expenditures under current work,		Suit Culvert	655.53
contract work, and the patrol system;		Fort Stanton Road Bridge	10.50
appropriation repairs county roads,		Livingston Road Bridge, No. 2	66.88
1886-'87.		Pope's Run Bridge, Anacostia road	347.58
Eastern section:		Fourteenth Street Road Bridge,	
Current work	\$4,772.38	No. 1	174.98
Current work (under patrol		Bates Road Bridge	7.20
system)	503.05	Queen Chapel Road Bridge	130.60
Western section:		Sargeant Road Bridge	2.20
Current work	4,752.16	Seventh street, culvert at Summey	
Current work (under patrol		Hill	140.79
system)	513.63	Bunker Hill road, culvert at	
Central section:		Hoover's Hill	47.31
Current work	0,537.14	Linnaen Hill Bridge, No. 1	26.49
Current work (under patrol		Spring Street Bridge	2.43
system)	607.87	Benning's Bridge	12.25
Bladensburgh road:		Military Road Bridge, No. 1	5.70
Contract work	3,886.42	Brentwood Road Bridge, No. 1	1.50
Inspection	192.00	Pierce Mill Bridge	991.15
Seventh street	2,781.23	Argyle Mill Bridge	22.18
Tennallytown road:		Military Road Bridge, No. 2	22.65
Contract work	9,207.33	Loughboro Road Culvert	301.49
Inspection	520.00	Red Lane Bridge	8.62
Total	37,273.21	Murdock Mill Road Bridge	21.00
Appropriation opening and extending		Woodley Lane Road Bridge	99.42
suburban streets, 1886-'87:		Benning's Road Bridge, No. 1	37.50
Nourse avenue	345.67	Walker Road Bridge, No. 1	15.00
Klinge Ford Bridge	6,186.50	Material, general use	2.50
Pope's Run Bridge, No. 10	1,374.88	Total expenditure	3,153.54
Inspection	356.00	Summary:	
Klinge road (paid from this appro-		Eastern section	1,139.94
priation)	39.33	Western section	899.64
Total	8,302.38	Central section	1,113.96
Expenditures from appropriation		Total	3,153.54
sweeping, cleaning, and sprinkling,		Expenditures from appropriation:	
1886-'87:		Ordinary care of Benning's, Anacos-	
Cleaning gutters, sprinkling, etc.:		tia, and Chain bridges, 1886-'87:	
Eastern section:		Benning's Bridge (labor \$14.70,	
Anacostia road	1.25	lumber \$825)	839.70
Central section:		From appropriation Chain	
Fourteenth street	311.48	Bridge keeper, 1886-'87	660.00
New York avenue	35.06	Amount of appropriation, \$660.	
Brentwood road	33.18	Appropriation current repairs streets,	
Woodley Lane road	31.63	avenues, and alleys, 1886-'87:	
Seventh street	205.10	Tennallytown road:	
Columbia road	193.47	Labor	1,469.94
		Material	69.80
		Total	1,539.74

SUMMARY OF EXPENDITURES.

Repairs county roads	\$37,273.21
Opening and extending suburban streets	8,302.38
Sweeping, cleaning, and sprinkling streets, avenues, etc.	1,245.92
Repairs to bridges	3,153.53
Ordinary care Benning's, Anacostia, and Chain bridges	839.70
Chain Bridge keeper	660.00
Current repairs streets, avenues, and alleys	1,539.74

APPENDIX 12.

REPORT OF SUPERINTENDENT OF TELEGRAPH AND TELEPHONE SERVICE.

OFFICE TELEGRAPH AND TELEPHONE SERVICE,
Washington, D. C., August 30, 1887.

SIRS: I have the honor to submit the twenty-third annual report of the fire-alarm and police telegraph—now “the telegraph and telephone service”—covering the details of the service during the fiscal year ending June 30, 1887.

This department embraces the fire-telegraph, the general telephone business of the District government, as well as the police business, and many of the public schools, both white and colored, also the patrol telegraph and telephone system. The fire-telegraph was enlarged during the year by adding three new signal-boxes, making the total number 139. One new electro-mechanical indicator was purchased, which will be put in service at No. 3 Engine Company for trial, so as to demonstrate their usefulness as auxiliary to the gong-striker in reading the alarms by the firemen.

All the new signal-boxes which have been put into the fire-alarm telegraph during the past two or three years have the improvement known as the “Gardner non-interference,” and it proves to be just what it claims and what the term indicates. It is quite impossible with these boxes to have a case of interference between two or more boxes on the same circuit. I consider it one of the greatest improvements made in fire-telegraphy that has come under my observation.

The new Excelsior gong-strikers which were purchased last year have proven quite as valuable as was anticipated, having worked splendidly on every occasion. As a matter of fact, our fire-alarm instruments are all in good working condition. Not a single failure occurred during the year in the giving of alarms. But notwithstanding this good record I feel constrained to raise a warning cry for the future, because of the obstructions to many of the wires in almost every part of the city. A remedy must be provided or our good record may be broken notwithstanding the most watchful care of those having the care of it—I refer to the trees—of which I shall speak further on in this report.

Many additional signal-boxes are needed both in city limits as well as in the suburban villages about the city. Many localities are without protection, especially Uniontown and Mount Pleasant. Twenty-five boxes might well be placed in these unprotected localities. The facts are, the growth of the fire-telegraph has not kept pace with the growth of the city and its suburbs.

There were 249 alarms pertaining to fires during the year which were transmitted through this office to the fire department, being an increase of 51 alarms over the preceding year. There were 186 first alarms, 5 second alarms, 2 special alarms, and 48 local alarms. The local alarms were, in all cases, communicated by telephone to the nearest fire company, without striking an alarm, by the telegraph, and usually given in response to telephone message coming from private houses in the vicinity (but where no attempt had been made to give an alarm through the fire-telegraph). This practice has been in vogue several years and proves the best possible way to work that class of alarms.

FIRE-ALARM DISTRICTS.

Washington and Georgetown are divided into seven alarm districts for the convenience of classifying the location of signal-boxes. Each

district is designated by the first part of the number of the box striking, thus: All boxes in the first district strike one blow, and make a pause of five seconds, and then proceed to finish the entire number. In like manner those in the second district strike two blows and make a light like pause; those in the third district will strike three blows and make its pause, and so on through the seven districts.

The following alarms were sounded :

	Alarms.
First district.....	70
Second district.....	44
Third district.....	34
Fourth district.....	34
Fifth district.....	20
Sixth district.....	17
Seventh district.....	17

There was one alarm from each of the following boxes: 124, 128, 131, 132, 134, 137, 145, 148, 152, 153, 21, 26, 27, 215, 36, 312, 43, 45, 416, 417, 426, 431, 435, 51, 57, 513, 514, 518, 523, 64, 621, 72, 714, 712, 721, 731; two each from 13, 19, 129, 136, 142, 143, 146, 24, 214, 216, 217, 236, 243, 246, 31, 34, 35, 37, 319, 328, 413, 516, 612, 625, 628, 634, 71, 735; three each from 12, 16, 17, 125, 151, 23, 218, 32, 321, 327, 423, 521; four each from 123, 213, 314, 324, 427, 54; five each from 127, 212, 552, 713, and six each from 47 and 62.

There were no alarms from boxes 14, 15, 18, 121, 126, 135, 147, 149, 154, 25, 219, 238, 239, 241, 245, 247, 248, 249, 251, 253, 254, 256, 257, 38, 39, 315, 318, 325, 41, 42, 46, 412, 415, 421, 425, 432, 436, 53, 56, 512, 524, 526, 527, 528, 61, 63, 65, 67, 613, 623, 627, 631, 632, 73, 76, 732.

BETWEEN WHAT HOURS FIRES OCCUR.

The records show that 31 alarms were between midnight and 6 o'clock a. m.; 42 alarms between 6 o'clock a. m. and midday; 56 alarms between midday and 6 o'clock p. m.; 57 alarms between 6 o'clock p. m. and midnight.

IN WHICH MONTHS FIRES OCCUR MOST FREQUENTLY.

Of the 186 first alarms during the year 4 were in July, 6 in August, 7 in September, 17 in October, 21 in November, 21 in December, 30 in January, 12 in February, 15 in March, 18 in April, 16 in May, and 19 in June.

HOW THE ALARMS WERE GIVEN.

One hundred and seventy-three of the alarms came direct through the fire-alarm boxes, and 13 through telephones from parties near the locality of the fire. The local alarms, as they are designated, are sent both ways by telephone. There were 48 of that class.

TIME SPENT EXTINGUISHING FIRES.

In response to alarms the fire companies were absent from their respective quarters 7 hours and 36 minutes in July, 4 hours and 12 minutes in August, 6 hours and 59 minutes in September, 23 hours and 52 minutes in October, 15 hours and 10 minutes in November, 29 hours and 49 minutes in December, 31 hours and 13 minutes in January, 10 hours and 47 minutes in February, 13 hours and 50 minutes in March, 16 hours and 48 minutes in April, 9 hours and 58 minutes in May, and

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27 hours and 17 minutes in June. Total time out, 197 hours and 20 minutes. Allowing 8 hours for a day's work, the firemen were engaged in extinguishing fires 24 days 5 hours and 20 minutes during the twelve months.

TELEPHONE MESSAGES.

One hundred and fifty-six thousand and seventy-eight messages were sent and received during the year on police business, which were recorded in full: 14,763 in July, 14,872 in August, 13,353 in September, 13,827 in October, 12,904 in November, 13,615 in December, 12,125 in January, 10,613 in February, 10,895 in March, 11,934 in April, 14,019 in May, 12,953 in June. Total, 156,078.

THE TELEPHONE SERVICE.

Including the patrol service the District of Columbia had in use during the year, on its own wires, 121 sets of telephones, at a rental of \$15 each per annum, and 13 sets on the wires of the Chesapeake and Potomac Telephone Company, terminating in their switch-board, at a rental of \$50 each a year; making the total number 134 in use in the various departments, classified as follows: Police department, 67; schools, 23; fire department, 11; miscellaneous, 33; total, 134.

Telephone business in connection with the discharge of the public business of the District has grown to be enormous. Two operators at headquarters are kept busy day and night, every day in the year, and so great is the rush at times that parties anxious to use wires already in use have to wait for an opportunity. Fully 300,000 messages pass through the central office in a year, and all this exclusive of that which is done in the patrol service.

THE PATROL SYSTEM.

In the early part of the fiscal year covered by this report the patrol system was extended to the fourth precinct, at a cost of \$4,150. This system is now in successful operation in the first, fourth, and sixth precincts. In the first there are 16 stations; in the fourth, 14 stations; in the sixth, 15 stations, all in fair working order. The lines in the fourth precinct are in better condition than in either of the others, from the fact that they are not so much troubled with other wires. Last year I renewed the wires in the first precinct. These lines were constructed, in the first place, with No. 12 iron "KK" wire, and it never gave satisfaction, therefore they were rebuilt with No. 12 hard-drawn copper, and are now in good condition, except for the fact that the wires are now amongst a net-work of all kinds of telegraph, telephone, and electric-light wires, which cause a good deal of interruption at times, but considering the difficulties they work well. The sixth is in fair condition, and now has that portion of its lines under ground along H street, between Second and Tenth streets northeast.

The advantages of a patrol telegraph and telephone system in the police department are too numerous to mention in a brief report of this kind; suffice it to say that it is an indispensable adjunct, and that it ought to be extended to every portion of the District as soon as possible.

EXPENDITURES OF THE DEPARTMENT.

For telephone rent.....	\$2,406.45
For telephone exchange service.....	304.10
For rent of office.....	200.00
For forage.....	184.33
For battery supplies.....	876.33

For wire.....	\$412.66
For telegraphic supplies.....	465.63
For electric trips and new keys and repairs of locks, etc	104.50
For new instruments, etc.....	616.50
Paid Martin Donaldson for labor	720.00
For ice	20.55
For blacksmith work.....	37.45
For washing.....	24.00
For fuel	59.90
For gas-light	89.12
For stationery	52.90
For chemicals.....	63.40
For new furniture and repairing of furniture.....	36.35
For iron pipe for cable work	44.86
For repairing wagon	51.00
For repairing of chimney and removing sentry-boxes.....	44.00
For painting sentry-boxes.....	22.50
For repairing instruments.....	18.56
For stone bases for sentry-boxes	39.00
Paid Springman & Bro. for hauling	35.00
For repairing harness	5.00
For repairing gas-pipe	1.25
For repairing fence	4.28
For repairing register-cases.....	6.00
For trimming trees from telephone wires.....	2.00
For freight on instruments	2.38

Total for supplies, repairs, new instruments, and extra labor..... 6,949.99

SALARIES PAID EMPLOYÉS.

General superintendent	\$1,600
1 electrician	1,200
2 telegraph operators, at \$1,000 each.....	2,000
3 telephone operators, at \$600 each	1,800
2 repair men, at \$720 each.....	1,440
2 laborers, at \$400 each.....	800

Total for regular salaries

8,840

UNDERGROUND CABLES.

It was in view of the urgent necessities of getting all the telegraph and telephone wires underground that I suggested in my annual report last year a comprehensive plan for its accomplishment. I now have the honor to submit the following plan in detail, with an estimate of the cost of putting down about one-half of the entire plant, with the hope that it may secure your approval, and that you may be successful in getting the necessary appropriation at the next session of Congress to do the work. When this work is accomplished the District can take down all its own poles embraced within the area bounded on the north by Massachusetts avenue, east by Sixth street, south by B street, north and west by Rock Creek. Also all its poles in Georgetown except those on High street and on M street west of High street, and on these two streets there are no trees to interfere with air lines.

I desire to emphasize very strongly the necessity for this work. The old poles leading from the central office along D street to Thirteenth, along Thirteenth to L street, along L street to Seventeenth, along Seventeenth to M street, and along M street to and through Georgetown, were erected ten or eleven years ago, and are, by reason of age, nearly ready to break down. They are not only unfit for use on account of age, but the trees along the route have grown to such height since the poles were put there, that they interfere very seriously with the fire-alarm wires during wet weather. In my report last year I called attention to

this subject, and said that it would be necessary within two years to rebuild that line of poles or put the wires underground. I see no reason to change that opinion; on the contrary, I am now firmly of the opinion that it is imperative that one or the other of these plans be adopted and carried into effect within one year from this time. These poles carry a great number of wires which must be kept intact; the department can not be successfully carried on without them. The experimental period in the use of cables seems to have demonstrated the practicability of an underground system, provided good cables are selected, and if they are laid with proper care. There is no difficulty in the way of getting suitable cables for municipal work of this character, and experience has fully demonstrated that cables can be so laid as to be both serviceable and durable.

The disadvantages resulting from the use of air lines within city limits are numerous, to say nothing of the unsightly poles along the beautiful streets and avenues of the national capital. Almost every highway is adorned with stately trees which are the pride of the city. The air lines must be abolished, or these trees will have to be kept cut below the altitude of the wires. It is hardly practical in building air lines to use poles of greater length than 65 feet, so that the top cross-arm will be rather less than 60 feet above the sidewalk, and if eight or ten arms be used, it requires no argument to show that the trees or the air-line wires must go; clearly they can not both succeed on the same streets. Underground wires are secure from atmospheric disturbances, and for that reason, if for no other, ought to be used for fire-alarm telegraph; the vast amount of property, and the human lives needing the constant protection which this most useful telegraph affords so cheaply, demands that it be kept in the best possible condition, and certainly no overhead system of wiring can compare with good cables, well laid underground. I have made a careful estimate of the cost of both the trenching and of the cables necessary for the proposed work. Where it has been practical to do so, I have made actual measurements of the trenching, as well as for the conductors, but had to estimate (or rather to anticipate) what may be required in the construction of future patrol service for the Third and Seventh precincts. As both these precincts are within the limits covered by this plan, I thought best to make provision for them. The estimates of the plan as proposed in the details which follow contemplate some 12 miles of trenching and 250 miles of wire, and will cost \$75,000.

CABLES LAID THIS YEAR.

Through a small appropriation for that purpose a small quantity of cable has been laid this year, and although this belongs to next year's report, yet in passing I wish to note the fact that with the small sum of \$7,500, 14 miles of wire has been put underground, in trenches aggregating in length 18,406 feet, enabling the District to dispense with all poles on both Sixth and Twelfth streets north of New York avenue, northwest, and also on H street, between Second and Tenth streets, northeast. The cables used are the "Waring" anti-induction, manufactured by the Standard Underground Cable Company.

TRENCH ROUTES.

The main-line trench should start from a cable pole, to be located at the northeast corner of Sixth and D streets and run along Sixth street to E street; thence along E street to Thirteenth street; thence along

Thirteenth to L street, and along L street to Seventeenth street; thence along Seventeenth street to M street, and then follow M street to No. 5 engine-house in Georgetown, a distance of 16,552 feet.

	Feet.
From Twenty-eighth and M streets, along Twenty-eighth, to Beall (or O) street, thence to High street.....	3,200
Then start at High and Q streets and run along Q street to Thirty-fourth street, and thence along Thirty-fourth to M street.....	2,700
From Thirtieth and M streets, along Thirtieth, to Water street.....	1,450
From Twenty-third and M streets, along Twenty-third, to F street.....	3,000
From Twenty-third and I streets, along I street, to Twenty-sixth street.....	1,250
From Twenty-third and G streets, along G street, to Twenty-fourth street....	350
From Twenty-third and F streets, along F street, to Nineteenth street.....	1,900
From Twenty-second and F streets, along Twenty-second, to E street.....	500
From Nineteenth and F streets, along F street, to Seventeenth street, and along Seventeenth to G street, and along G street, to the U. S. Signal Office	1,850
From Nineteenth and H streets, along H street, to Twenty-first street.....	850
From Nineteenth and K streets, along K street, to the Third precinct station-house.....	600
From Nineteenth and M streets, along Nineteenth, to F street.....	3,200
From Seventeenth and M streets, along Seventeenth, to Massachusetts avenue to the Force School building on Massachusetts avenue	1,500
From Seventeenth and L, along Seventeenth, to an alley, and through the alley to the rear of No. 1 engine-house on K street	450
From Seventeenth and M streets, along M street, to Sixteenth street	450
From Fifteenth and L streets, along Fifteenth, to I street.....	900
From Fourteenth and L streets, along Fourteenth, to Rhode Island avenue..	2,100
From Thirteenth street, through alley near Franklin School, to Twelfth street, to sentry station (patrol service)	400
From Thirteenth and G streets, along G street, to Fifteenth street.....	1,175
From Fourteenth and G streets, along Fourteenth, to New York avenue.....	290
From Thirteenth and E streets, along Thirteenth, to B street.....	1,841
From Thirteenth and D streets, along D street, to No. 2 engine-house.....	350
From Thirteenth and D streets, via D street, to E street, to Fifteenth street, to Pennsylvania avenue (taking in fire-alarm and patrol boxes)	1,104
From Fourteenth and E, along Fourteenth, to signal box on Ebbitt House...	450
From Sixth and D streets, via Sixth, to H street, to Ninth street, to F street..	3,700
From Eighth and H streets, along Eighth, to K street.....	815
From Eighth and I streets, along I street, to Seventh street.....	318
From Sixth and D streets, via Louisiana avenue, to Ninth street.....	1,800
From Tenth and E streets, along Tenth street, to G street, to Eleventh street..	1,225
From Tenth and G streets, along Tenth street, to Webster School	475
From Twelfth and Q streets, via Q street to Fourteenth, and along Fourteenth to W street, thence along W street to Twelfth street, to Twelfth and V streets	5,150
Estimated distances which may be necessary to trench extra in providing for the patrol service in the Third and Seventh police precincts, so as to avoid setting poles.....	3,105
Total number of linear feet.....	65,000

I have made as careful an estimate of the length of conductors for present and prospective wants of the service as I could, and find that it will be necessary to put 250 miles of wire in the trenches which I have described; in other words, it will require 1,320,000 feet of conductors to accomplish the work outlined, which is about one-half of the entire plant.

CABLES FOR THE TRENCHES.

- From headquarters to No. 5 engine-house, three 6-wire cables.
- From headquarters to Twenty-third and F streets, one 6-wire cable.
- From headquarters to Twenty-third and F, via M and Twenty-third, one 6-wire cable.
- From headquarters to Western Presbyterian Church on H street, near Twenty-first street, one 6-wire cable.
- From headquarters to Truck B house, one 6-wire cable.
- From headquarters to Force and Sumner schools, one 2-wire cable.
- From headquarters to No. 1 engine-house, one 6-wire cable.
- From headquarters to Franklin School, one 2-wire cable.

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From headquarters to No. 2 engine-house, two 6-wire cables.

From headquarters to Eleventh and G streets, and one wire to Webster School, one 3-wire cable.

From headquarters to Eighth and K streets, one 6-wire cable.

These measure in linear feet of conductors 950,766 feet, to which I have added for patrol service an estimated length equal to 369,234 feet, making a total of 1,320,000 feet. This I believe to be a fair estimate of the actual necessities of the service.

RECAPITULATION.

Linear feet of conductor.....	1,320,000
Linear feet of trenching.....	65,000
Total cost.....	\$75,000

ESTIMATES FOR SALARIES AND OTHER PURPOSES.

For one general superintendent.....	\$1,600
For one electrician.....	1,200
For two telegraph operators, at \$1,000 each.....	2,000
For three telephone operators, at \$720 each.....	2,160
For three repair men, at \$720 each.....	2,160
For one inspector.....	900
For two laborers, at \$400 each.....	800

Total amount for salaries of employés.....	10,820
For purchase of new instruments, battery supplies, and contingent expenses of every kind.....	8,000

Total for salaries and general expenses..... 18,820

In addition to the foregoing I respectfully suggest the further sum of \$75,000 for putting a portion of the wires under ground, in accordance with plans herewith submitted, making the total appropriation asked for \$93,820.

In requesting three repair men I am not asking for an increase of that kind of help. We have found it necessary to and have kept an extra man employed during the past two years at \$60 per month. I simply ask that a regular salary may be provided for this man.

I have asked for a slight increase in the salaries of the three telephone operators because they earn all that I ask for them. They are required to work Sundays and holidays and at night, as well as during the day time. I repeat, they earn all that I ask for them; and surely the laborer is worthy of his hire, even when the hire is sufficient.

I have requested one additional employé, to be styled "inspector," with a salary of \$900. The department has grown to such proportions, and still growing, that I find it very necessary to have more help, and for the purposes for which we need this proposed man intelligence and skill are chief requisites, and a man of sufficient ability to do the required work, namely, to keep the telephones and all the patrol instruments in good working order and adjustment, can scarcely be procured for less.

I ask for \$1,000 more for current expenses than we had this year, because the growth of the department will require it, especially if any new fire-alarm boxes are to be put up next year.

With the generous support which I have received from the Commissioners during the year many valuable improvements have been made in the department, all having a tendency to improve its efficiency.

The police and fire departments have each contributed on every possible occasion their full quota of aid, for which I herein tender to them my hearty thanks. The employés of the department have worked hard, and have been untiring in their efforts to make the service effective.

The fact that no serious delays have occurred in either the telegraphic or telephonic service, nor in the patrol system, is an indorsement far outweighing any words of commendation of mine. .

Respectfully submitted.

HENRY R. MILES,

General Superintendent Telegraph and Telephone Service.

The honorable COMMISSIONERS DISTRICT OF COLUMBIA.

APPENDIX 13.

REPORT OF SUPERINTENDENT WATER DIVISION.

ENGINEER DEPARTMENT,

Washington, D. C., October 1, 1887.

COLONEL: I have the honor to submit the following report of the operations of the water division of the engineer department under my supervision, during the fiscal year ending June 30, 1887:

The reorganization of the employés into divisions has proven a valuable addition to the efficiency of the office in giving prompt attention to complaints, and in keeping the system of water-works in repair.

Complaints of the scarcity of water have come from several localities in the city, and all possible relief has been promptly given.

The adjustment of stop-valves assisted in many cases to balance fluctuations from higher to the lower level.

Two severe leaks occurred in the 30-inch main on L between Twenty-first and Twenty-second streets northwest, April 8 and June 16, 1887, rendering it necessary in each case to cut off the supply of water to uncover the main, locate the fractured sections, and repair them, which was done in a remarkably short time, and the water turned on slowly until the main and branches connected therewith were charged. The main stop-valves were then opened to their full capacity.

The new 20-inch main laid from L street north, on Seventeenth, to U street northwest, for giving a greater supply to the high-service pumping engine at the U street station has fully justified the expenditure.

The extension of the 20-inch main from Seventeenth and U streets east, on U street, to the pumping station will be necessary to insure an ample supply for the new pumping engine.

Since the increase in the supply for the U street station the stand-pipe has been filled daily from 1 to 3 a. m., and the supply reserved for the mains north of Boundary, providing now a continuous supply of water to an area heretofore inadequately supplied, and giving protection in case of fire. During the remaining hours of each day the high-service mains south of Boundary have been supplied directly from the pumping station.

The record of pressures taken hourly at the U street station for 31 days in 1886, compared with the corresponding days in 1887, shows the improvement in the supply for the high-service mains south of Boundary connected with the U street station.

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Minimum, maximum, and average pressure in distributing mains for each 24 hours, from July 16 to August 15.

1886.				1887.			
Date.	Minimum.	Maximum.	Average.	Minimum.	Maximum.	Average.	Increase in pressure.
July 16.....	6	14	10.2	16	24	18.5	8.3
17.....	6	14	10.4	18	24	19.4	9
18.....	6	16	10.9	10	20	15.5	4.6
19.....	6	14	9.7	8	24	14.9	5.2
20.....	6	14	10.7	20	32	23.5	12.8
21.....	6	14	9.7	22	32	27.3	17.6
22.....	6	14	8.7	18	30	21.5	12.8
23.....	6	14	10.5	18	28	22.4	11.9
24.....	6	14	10.5	20	28	23	12.5
25.....	6	14	11	16	28	20.4	9.4
26.....	6	14	10.9	18	28	20.9	10
27.....	6	14	10.7	18	28	20.3	9.6
28.....	6	14	10.9	18	28	20.4	9.5
29.....	6	14	10.2	16	28	19.9	9.7
30.....	6	14	10.6	18	28	20.6	10
31.....	6	14	10.9	18	30	20.4	9.5
Aug. 1.....	6	14	10.2	18	28	21.4	11.2
2.....	6	14	11.1	18	28	20.6	9.5
3.....	6	14	10.9	18	28	20.8	9.9
4.....	6	14	9.2	16	28	20.6	11.4
5.....	6	14	9.6	16	28	20.4	10.8
6.....	6	14	8.8	18	28	21.2	12.4
7.....	6	14	8.7	18	28	21.4	12.7
8.....	6	14	8	20	28	24	16
9.....	6	12	8.7	18	30	21.6	12.9
10.....	6	14	8.6	20	30	23.6	15
11.....	6	16	10.8	22	30	23.9	13.1
12.....	5	14	8.3	19	30	22.9	14.6
13.....	5	14	7.9	22	30	24.2	16.3
14.....	4	14	8.2	22	32	25	16.8
15.....	6	14	11.5	22	28	24.2	12.7

The high-service pumping engine and boilers at the Georgetown station have been in constant use since April, 1875; they are much worn and will need thorough repairs after the present pumping engine and boiler at the U street station have been transferred to and erected at Georgetown. The pumping machinery at both the high-service stations has required more than usual care and watchfulness to keep it in continuous service during the past year.

The present taps and stop-cocks used in the water-service are defective, both in capacity and construction, and in many cases do not furnish the necessary quantity of water to premises. It has been found in a number of cases where complaints have been made on account of an insufficient supply of water, that the difficulty was not so much for want of pressure in the mains, as it was due to the contracted waterways of the service-pipes and connections from the mains to the fixtures in the premises.

Comparatively few water-service boxes are in condition for free access to the stop-cocks on water-service pipes to premises; a large number of them are either above or below the established grades, many tops are broken or removed, and the boxes filled with earth and gravel. In such cases excavations have to be made before the water can be turned on or off premises.

Improved taps, stop-cocks, and water-boxes, devised in the water division, having been approved by the Engineer Commissioner, when introduced with service-pipes of greater capacity than those heretofore used, will do much toward improving the water service.

There are 1,013 fire hydrants in service; 798 repairs have been required on them during the past year. They are defective in construction and difficult to keep in working order. Drawings of improved hydrants have been carefully prepared in the water division to obviate the defects in those now in use.

There are 295 public pumps within the city limits, and 5 pumps on the county roads; 200 of these pumps are old and nearly worn out, and should be replaced with new ones. The wells are lined with brick laid in a loose manner without cement or mortar, and in some cases the water in them is more or less contaminated by surface drainage or defective sewers in close proximity to them; 51 of the old pumps have been removed during the past year and replaced with new ones of modern construction. In most cases the new pumps have been erected at the curb line, a few feet from the wells, with traps and waste-pipes leading into sewers.

Considerable effort has been made to correct the evils complained of in regard to the condition of the pumps and the water in the wells. It has been found impossible to keep 300 public pumps in working order and the water in the wells as pure as it should be for human consumption with the small annual appropriation of \$3,000 for the purchase and repairs of pumps and care of wells.

I have the honor to recommend that the appropriation for pumps and the care of wells for the next fiscal year be increased to \$6,000, and that all wells containing pure water be lined with hard brick laid in cement, and the old pumps replaced with new ones whenever their condition renders them unfit for further service.

In concluding this report I have the honor to call your attention to the necessity of providing a horse and wagon for the use of the superintendent. The daily operations of the water division extend over a large area, and it is impossible for him to travel on foot or depend on street-car service to reach all the localities where his personal direction is required. He is frequently called upon at all hours of the night to give directions to repairs to broken water-mains and changes that could not be made during the day-time.

Tabulated statements of the operations of this division for the past fiscal year are herewith appended.

Very respectfully, your obedient servant,

H. F. HAYDEN,
Superintendent Water Division.

Col. WILLIAM LUDLOW,
Engineer Commissioner District of Columbia.

H. Ex. 1, pt. 6—41

WATER MAINS.

During the year 7,124 feet of 3-inch, 280 feet of 4-inch, 29,021 feet of 6-inch, 2,944 feet of 10-inch, 1,099 feet of 12-inch, and 4,830 feet of 20-inch water-main pipe was laid, as follows:

Location.	Street or avenue.	Streets between.	Size of pipe.	Length of main.
			Inches.	Lin. ft.
West side..	New Jersey avenue, north.....	L and New York avenue, west	3	570
In alley....	Twelfth and Thirteenth	U and V, northwest	3	124
Do.....	Third and Four-and-a-half	B and C, southwest.....	3	752
Do.....	First and Second.....	B and C, northeast.....	3	483
Do.....	Ninth and Tenth	L and M, northwest	3	249
Do.....	Twelfth and Thirteenth.....	K and L, southeast	3	385
Do.....	Sixth and Seventh	G and I, southeast	3	477
Do.....	North Capitol and First	K and L, northwest.....	3	432
Do.....	Second and Third.....	G and Massachusetts avenue, north-west.	3	234
Do.....	First and Delaware avenue.....	B and C, southwest.....	3	284
Do.....	Second and Third.....	B and Canal, southwest.....	3	258
Do.....	Sixth and Seventh.....	H and I, northwest.....	3	465
Do.....	Ninth and Tenth	D and E, southwest	3	218
Do.....	Twelfth and Thirteenth	G and H, northeast	3	504
Do.....	Second and Third	F and G, northeast	3	192
Do.....	Delaware avenue and South Capitol.	Canal and E, southwest.....	3	207
Do.....	Third and Four-and-a-half.....	Pennsylvania avenue and C, north-west.	2	388
Do.....	Fourteenth and Fifteenth	S and Pierce, northwest	3	262
Do.....	North Capitol and First	G and H, northwest	3	640
Center....	Stoughton	Alley to Boundary.....	4	131
Do.....	Chapin	Fourteenth and alley	4	137
Do.....	Twenty-third, north	E and Virginia avenue, west	6	162
Do.....	T, north.....	Seventh and Boundary	6	444
Do.....	N, north.....	Twenty-seventh and Twenty-eighth, west.	6	168
Do.....	R, north	Eighteenth and Nineteenth, west....	6	462
Do.....	Twentieth, north	R and S, west.....	6	616
Do.....	Tenth, north.....	V and W, west	6	385
Do.....	W, north	Tenth and Eleventh, west	6	288
Do.....	New Hampshire avenue, north.....	H and I, west.....	6	500
Do.....	D, north	Seventeenth and Eighteenth, west....	6	311
Do.....	Richardson, north	New Jersey avenue and Fourth, west	6	235
Do.....	Twenty-ninth, north.....	Q and R, west.....	6	216
Do.....	S, north.....	Ninth and Tenth, west	6	508
Do.....	A, north	Twelfth and Tennessee avenue, east.	6	140
Do.....	Twelfth, north	A and B, east.....	6	597
Do.....	Maryland avenue, north	Fourteenth and Fifteenth, east.....	6	582
Do.....	E, north	Nineteenth and Twentieth, west....	6	411
Do.....	Twelfth, north.....	G and H, east.....	6	108
Do.....	E, south	Virginia avenue and Third, west....	6	576
Do.....	H, south	Delaware avenue and Second, west.	6	222
Do.....	Spruce, north.....	Linden and Harewood avenue, Le Droit Park.	6	448
Do.....	M, south.....	Third and Fourth, east	6	388
Do.....	E, north	Twenty-first and Virginia avenue, west.	6	336
Do.....	Twenty-first, north.....	E and Virginia avenue, west	6	180
Do.....	S, north.....	Thirty-third and Thirty-fourth, west.	6	460
Do.....	Twenty-sixth, north.....	Virginia avenue and I, west.....	6	306
Do.....	I, north.....	Eighth and Ninth, east.....	6	329
Do.....	E, south.....	South Capitol and First, west	6	767
South side..	K, north.....	Twenty-first and Twenty-second, west.	6	595
Do.....	D, south	Fifth and Sixth, east.....	6	122
Do.....	I, north.....	Twelfth and Thirteenth, east.....	6	587
Do.....	P, north	Sixteenth and Seventeenth, west....	6	455
Do.....	Boundary, north.....	North Capitol and New York avenue, east.	6	497
Do.....	L, north	Twenty-fifth and Twenty-sixth, west.	6	292
Center....	First, north.....	L and Pierce, west	6	320
Do.....	Arthur place, north	First and New Jersey avenue, west.	6	472
Do.....	O, north	First and Third, west	6	852
Do.....	D, south	Second and Third, east.....	6	388
Do.....	Eighth, south.....	C and D, east.....	6	512
Do.....	Fifth, south	E and G, east.....	6	518
Do.....	C, south	Ninth and Tenth, east.....	6	306
Do.....	Fourth, north.....	I and K, east	6	415
Do.....	Third, north.....	C and Maryland avenue, east.....	6	294

Location.	Street or avenue.	Streets between.	Size of pipe.	Length of main.
			<i>Inches.</i>	<i>Lin. ft.</i>
Center.....	South Carolina avenue, south	Sixth and Seventh, east	6	629
Do.....	K, south	Twelfth and Thirteenth, east.....	6	374
Do.....	Gales, north	Fifteenth and Sixteenth, east.....	6	491
Do.....	Sixteenth, north	Gales and Benning's road	6	414
Do.....	Second, south	M and N, west.....	6	663
Do.....	M, south	Second and Canal, west	6	300
North side..	M, north	Twenty-second and Twenty-third, west.	6	128
Center.....	C, south	Sixth and Seventh, east	6	602
Do.....	Fourth, north	G and H, east.....	6	423
Do.....	Fourth, south	G and Virginia avenue, east.....	6	471
Do.....	Second, south	C and Canal, west	6	168
Do.....	Delaware avenue, north	I and K, east	6	405
Do.....	E, south	Seventh and Eighth, east.....	6	279
Do.....	Tennessee avenue, north	A and B, east.....	6	703
Do.....	Jackson alley, north	North Capitol and First, east	6	810
North side..	Rhode Island avenue, north	Ninth and Columbia avenue, west..	6	288
Do.....	Massachusetts avenue, north.....	North Capitol and New Jersey avenue, west.	6	725
Do.....	D, south	Fifth and Sixth, east.....	6	288
West side..	Delaware avenue, north	C and D, east.....	6	416
Do.....	New Jersey avenue, north.....	Q and Warner, west.....	6	328
Do.....	Vermont avenue, north	U and V, west.....	6	421
Do.....	First, north	Jackson alley and H, east	6	238
Do.....	Delaware avenue, south	G and H, west.....	6	374
East side..	North Capitol, north	M and Patterson, east	6	328
Do.....	New Hampshire avenue, north...	Q and R, west	6	638
Do.....	Nineteenth, south	E and Georgia avenue, east.....	6	327
South side..	L, north	New Jersey avenue and First, west.	10	444
Do.....	do	First and North Capitol, west	10	879
Do.....	do	North Capitol and First, east.....	10	904
Do.....	do	First and Colfax, east.....	10	296
Do.....	do	Colfax and Delaware avenue, east...	10	248
Do.....	do	Delaware avenue and Second, east..	10	119
East side..	First.....	A and B, southeast	12	1, 074
North side..	B	First and Second, southeast }		
West side..	Seventeenth, west	L to U, north.....	20	4, 825
Total..	.....	.....	.....	44, 182

WATER MAINS LOWERED.

The following water mains were lowered during the year:

Location.	Street or avenue.	Streets between.	Size of pipe.	Length of main.
			<i>Inches.</i>	<i>Lin. ft.</i>
Center.....	H, north	Fourth and Fifth, west.....	6	392
Do.....	do	Fifth and Sixth, west.....	6	187
Do.....	Second, east	H and Virginia avenue, south	6	156
Do.....	Eighth, east	B and C, south.....	6	323
Corner.....	Thirty fifth and	N, northwest	6	20
In alley....	Fourteenth and Fifteenth.....	Massachusetts avenue and N, north-west.	6	65
Total..				1, 143

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Intersections laid and connections made to water mains on streets specified to be improved.

	Street or avenue.	Size of pipe.	New pipe used.
		<i>Inches.</i>	<i>Lin. ft.</i>
Making connection....	Eighth and P northwest	6	36
Laying intersection....	North Capitol and F and Massachusetts avenue northwest. .	6	359
Do.....	Eighth and E southwest	6	36
Making connection....	Columbia avenue and Q	6	34
Laying intersection....	Eleventh and Q northwest	6	90
Do.....	Twelfth and Q northwest	6	66
Making connection....	Fifteenth and G northeast	6	87
Do.....	Southeast corner North Capitol and L northeast	6	16
Do.....	Second and L northeast	6	12
Do.....	Fourth and Q northwest	6	50
Do.....	Southwest corner First and L northeast	6	66
Do.....	Twelfth and O northwest	6	16
Laying intersection....	Spruce, north side Larch, LeDroit Park	6	16
Making connection....	Columbia avenue and P, northwest	6	16
Do.....	Elm, between Harewood avenue and LeDroit, northwest ...	4	12
Do.....	Valley and Q northwest	6	16
Do.....	K, between Fifteenth and Sixteenth, northwest	6	29
Do.....	Twenty-eighth and M northwest	6	16
Do.....	First and Myrtle northeast	6	3
Do.....	Fifth and K northwest	6	12
Do.....	Fifth and L northwest	6	7
Do.....	First and A southeast	6	6
Do.....	First and B southeast	6	6
Do.....	East side North Capitol and center Jackson alley	12	4
Do.....	Fourth and Q northwest	12	21
Do.....	do	20	5
Do.....	Seventeenth and L northwest	6	25
Do.....	New Jersey avenue and L northwest	10	54
Total			1,116

FOUR-WAY BRANCHES.

The following four-way branches have been connected to water mains:

Location.	Number.	Size.
		<i>Inches.</i>
West side First street, center Jackson alley northeast	1	6 by 6
West side Seventeenth street, center DeSales northwest	1	20 by 6
Northwest corner Seventeenth street, center L northwest	1	20 by 6
West side Seventeenth street, center N northwest	1	20 by 6
West side Seventeenth street, center M northwest	1	20 by 6
West side Seventeenth street, center Rhode Island avenue	1	20 by 8
West side Seventeenth street, center Massachusetts avenue	1	20 by 8
West side Seventeenth street, center O northwest	1	20 by 6
West side Seventeenth street, center P northwest	1	20 by 6
West side Seventeenth street, center Q northwest	1	20 by 6
West side Seventeenth street, center Madison northwest	1	20 by 6
West side Delaware avenue, center G street southwest	1	6 by 6
Northeast corner First and B streets southeast	1	12 by 6
Intersection Spruce street and Harewood avenue	1	3 by 3
Southwest corner Seventeenth and Q streets northwest	1	20 by 20
West side Seventeenth street, between Q and Corcoran	1	20 by 8
Corner Seventeenth and Corcoran streets northwest	1	20 by 6
Intersection New York avenue and Boundary northeast	1	6 by 6
West side Seventeenth street, center R northwest	1	20 by 6
West side Seventeenth street, center S northwest	1	20 by 6
Intersection New Hampshire avenue and M street	1	6 by 6
In alley between Sixth and Seventh, G and I streets southeast	1	3 by 3
West side Seventeenth street, center New Hampshire avenue northwest	1	20 by 8
West side Seventeenth street, center T northwest	1	20 by 6
West side Seventeenth street, center Willard northwest	1	20 by 6
West side Seventeenth street, center U northwest	1	20 by 12
Intersection First and E streets southwest	1	6 by 6
Intersection First and A streets southeast	1	6 by 6
Intersection Tenth street and Grant Place northwest	1	6 by 6
In alley between Delaware avenue, South Capitol, Canal, and E streets southwest	1	3 by 3
South side L street, center North Capitol northwest	1	10 by 6
South side L street, center First northwest	1	10 by 6
South side L street, center First northeast	1	10 by 6
South side L street, center Second northeast	1	10 by 6
South side L street, center Delaware avenue northeast	1	10 by 6
East side North Capitol street, center Jackson alley	1	12 by 6
Total	36	

The following T's have been connected to water mains:

Location.	Number.	Size.
		<i>Inches.</i>
In alley between First and Second, B and C streets northeast	1	3
Center alley, between North Capitol and First, K and L streets, northwest	1	3
Center alley, between Sixth and Seventh, H and I streets, northwest	1	3
Center alley, between F and G, Second and Third streets, northeast	1	3
Center alley, between Third and Four-and-a-half, B and C streets, southwest	1	3
South side Massachusetts avenue between Second and Third streets northwest	1	4
Center Twenty-second street, south side K northwest	1	6
South side F street, intersection North Capitol, northwest	1	6
Center North Capitol street and Massachusetts avenue northwest	1	6
North side Massachusetts avenue, intersection North Capitol street, northwest	1	6
West side North Capitol street, intersection Massachusetts avenue, northwest	1	6
South side E street, intersection Fifth, southeast	1	6
East side Twelfth street, intersection Q, northwest	1	6
East side Fifth street, intersection D, southeast	1	6
East side Twentieth street, center R, northwest	1	6
Massachusetts avenue, between North Capitol street and New Jersey avenue, northwest	1	6
Center Q street and building line New Jersey avenue northwest	1	6
Center New Hampshire avenue and I street northwest	1	6
North side U street, intersection Vermont avenue, northwest	1	6
North side M street, intersection North Capitol, northeast	1	6
South side R street, intersection New Hampshire avenue, northwest	1	6
Center Eighteenth street, between New Hampshire avenue and Q, northwest	1	6
Center Eighteenth and Q streets northwest	1	6
Center Fourth street, between R and Boundary, northwest	1	6
North side Georgia avenue, intersection Twelfth street southeast	1	6
South side Benning's road, center Sixteenth street	1	6
East side Nineteenth street, opposite work-house	1	6
East side Twenty-third street, center M northwest	1	6
West side Sixteenth street, center P northwest	1	6
South side C street, center Arthur place	1	6
North side Massachusetts avenue, center Thirteenth street northwest	1	6
North side Boundary street, center Eighth northwest	1	6
East side Twelfth street, center I northeast	1	6
North side R street, between Ninth and Tenth, northwest	1	6
Center Sixteenth and Gales streets northeast	1	6
South side L street, center First northeast	1	6
East side Nineteenth street and Georgia avenue	1	6
North side O street, center Twelfth northwest	1	6
Center Columbia and Garfield avenues	1	6
North side Q street, center Marion northwest	1	6
Center Columbia avenue, north side P street northwest	1	6
Center Spruce street, north side Larch	1	6
Center Valley and Q streets northwest	1	6
Northeast corner First and B streets southeast	1	6
Center E street, west side South Capitol	1	6
West side New Jersey avenue, center New York avenue	1	6 by 3
Opposite alley Third street, between B and C streets, southwest	1	6 by 3
Center First street, between B and C, northeast	1	6 by 3
Center L street, between Ninth and Tenth, northwest	1	6 by 3
Center K street, between Twelfth and Thirteenth, southeast	1	6 by 3
Center E street, between New Jersey avenue and North Capitol, northwest	1	6 by 3
Center Seventh street, between G and I, southeast	1	6 by 3
Center Second street, between C and Canal, southwest	1	6 by 3
South side B street, between Third and Four-and-a-half, southwest	1	6 by 3
Center H street, between Sixth and Seventh, northwest	1	6 by 3
Center E street, between Nineteenth and Twentieth, northwest	1	6 by 2
Center Twelfth street, between G and H, northeast	1	6 by 3
Center E street, between Delaware avenue and South Capitol, southwest	1	6 by 3
Center S street, between Fourteenth and Fifteenth, northwest	1	6 by 3
Center Pierce street, between Fourteenth and Fifteenth, northwest	1	6 by 3
Corner Jefferson and K streets	1	6 by 4
North side M street, corner Twenty-ninth northwest	1	6 by 4
Seventh-street road, between Boundary and Pomeroy	1	6 by 4
South side K street, between Fifteenth and Sixteenth, northwest	1	6 by 4
Northwest corner Twenty-eighth and M streets northwest	1	6 by 4
Northwest corner Fifth and K streets northwest	1	6 by 4
Southwest corner Fifth and L streets northwest	1	6 by 4
Center Colfax street, south side L, northeast	1	10 by 6
Southeast corner North Capitol and L streets northeast	1	10 by 6
Center T and Boundary streets northwest	1	12 by 6
Northeast corner First and A streets southeast	1	12 by 6
Northwest corner Fourth and Q streets northwest	1	20 by 12
Southwest corner Seventeenth and L streets northwest	1	36 by 20
Center Fourth and Q streets northwest	1	48 by 20
Center Eighth and Boundary streets	1	12 by 6
Total	75	
<i>Reducers.</i>		
Corner New Jersey avenue and L street northwest	1	36 by 10

Bends.

Location.	Number.	Size.
		<i>Inches.</i>
In alley between Third and Four-and-a-half, B and C streets southwest	5	3
In alley between First and Second, B and C streets northeast	1	3
In alley between Twelfth and Thirteenth, K and L streets southeast	2	3
Southwest corner Massachusetts avenue and North Capitol street	1	4
Northwest corner Eighth and P streets northwest	1	6
North side Rhode Island avenue, between Ninth and Columbia streets	1	6
Center Columbia and Q streets northwest	1	6
Southwest corner Delaware avenue and D street northeast	1	6
Northeast corner Fifth and D streets southeast	1	6
Northwest corner Sixth and D streets southeast	1	6
Southeast corner Fifth and D streets southeast	1	6
Northeast corner Twentieth and R streets northwest	1	6
North side R street, center Twentieth northwest	1	6
Southeast corner Twentieth and R streets northwest	1	6
Northwest corner North Capitol street and Massachusetts avenue northwest	1	6
Northeast corner Massachusetts near New Jersey avenue	1	6
Northeast corner Twelfth and I streets northeast	1	6
Southeast corner Twelfth and I streets northeast	1	6
Southwest corner Thirteenth and I streets northeast	1	6
Southwest corner New Jersey avenue and Q street northwest	1	6
Southwest corner Vermont avenue and V street northwest	1	6
Northwest corner Vermont avenue and U street northwest	1	6
Northeast corner North Capitol and M streets northeast	1	6
Southeast corner New Hampshire avenue and R street northwest	1	6
East side Eighteenth street, near New Hampshire avenue, northwest	1	6
Northwest corner Twelfth and K streets southeast	1	6
Northeast corner Twenty-third and M streets northwest	1	6
Southwest corner First and H streets northeast	1	6
South side H street, center First, northeast	1	6
Center Boundary and T streets northwest	1	6
Southwest corner Sixteenth and P streets northwest	1	6
Southeast corner Seventeenth and P streets northwest	1	6
West side Boundary street, center P, northeast	1	6
Northwest corner Seventeenth and L streets northwest	1	6
Center New Jersey avenue and O street northwest	4	6
East side Twenty-sixth street, center L, northwest	1	6
Southeast corner Twenty-sixth and L streets northwest	1	6
Northwest corner Fourth and Q streets northwest	1	12
Northeast corner First and B streets southeast	2	12
East side Second street, center Pennsylvania avenue, southeast	1	12
Center Fourth and Q streets northwest	1	20
Total	50	

STOP-VALVES.

Thirty-five stop-valves have been changed to grade.

Three hundred and ninety-two repairs have been made to stop-valves.

The following stop-valves, with cast-iron casings erected over them, have been connected to water mains:

Location.	Number.	Size.	Way.
		<i>Inches.</i>	
Center Potomac street, between Canal and M, northwest	1	2	2
In alley between Third and Four-and-a-half, Pennsylvania avenue and C street northwest	1	3	2
Center E street, between New Jersey avenue and North Capitol street, northwest	1	3	2
Center Seventh street, between G and I, southeast	1	3	2
Center First street, between B and C, southwest	1	3	2
Center H street, between Sixth and Seventh southwest	1	3	2
West side North Capitol street, center Jackson alley	1	3	2
South side B street, between Third and Four-and-a-half, southwest	1	3	2
South side C street, between Third and Four-and-a-half, northwest	1	3	2
South side Pierce Place, between Fourteenth and Fifteenth, northwest	1	3	2
West side Ninth street, between D and E, southwest	1	3	2
West side North Capitol street, between G and H, northwest	1	3	2
North side S street, between Fourteenth and Fifteenth, northwest	1	3	2
Center U street, between Twelfth and Thirteenth, northwest	1	3	2
East side Twelfth street, between G and H, northeast	1	3	2

Location.	Number.	Size.	Way.
Terminus Elm street, LeDroit Park.....	1	4	2
In alley between Third and Four-and-a-half, B and C streets southwest.....	1	4	2
Southeast corner Twenty-second and K streets northwest.....	1	6	2
Center Eighth and Boundary streets northwest.....	1	6	2
Center Twenty-third and E streets northwest.....	1	6	5
Intersection Kirby and O streets northwest.....	1	6	3
Intersection Delaware avenue and I street northeast.....	1	6	4
Intersection First and E streets southwest.....	1	6	2
Center H street, west side Delaware avenue, southwest.....	1	6	3
Intersection Nineteenth and E streets northwest.....	1	6	4
Intersection Fourteenth street and Maryland avenue northeast.....	1	6	4
Intersection First and O streets northwest.....	1	6	4
Intersection Twelfth and A streets northeast.....	1	6	3
Intersection Tennessee avenue and A street northeast.....	1	6	3
Intersection Tennessee avenue and B street northeast.....	1	6	4
Intersection Second and C streets southwest.....	1	6	4
Intersection T street and Boundary northwest.....	1	6	2
Intersection Fourth and G streets northeast.....	1	6	4
Intersection First and Pierce streets northwest.....	1	6	4
Center Fourth street, between R and Boundary, northwest.....	1	6	2
Center Eighteenth street, between New Hampshire avenue and Q street, northwest.....	1	6	2
Intersection New Hampshire avenue and I street northwest.....	1	6	2
Intersection New Hampshire avenue and R street northwest.....	1	6	5
West side North Capitol street, intersection Massachusetts avenue, northwest.....	1	6	2
South side E street, intersection, Fifth, southeast.....	1	6	2
North side R street, center Twentieth, northwest.....	1	6	5
East side Eleventh street, center W, northwest.....	1	6	5
South side K street, center Delaware avenue, northeast.....	1	6	4
South side Boundary street, center First, northeast.....	1	6	3
South side L street, center First, northeast.....	1	6	2
Intersection Tenth and W streets, northwest.....	1	6	5
Intersection Eighth and C streets southeast.....	1	6	5
Intersection North Capitol and F streets.....	1	6	5
Intersection Fifth and D streets southeast.....	1	6	5
Intersection Eighteenth and R streets northwest.....	1	6	5
Intersection Second and E streets southwest.....	1	6	4
Intersection Columbia avenue and Q street northwest.....	1	6	5
Intersection Twelfth and I streets northeast.....	1	6	5
Intersection Seventeenth and D streets northwest.....	1	6	2
Intersection Fifteenth and G streets northeast.....	1	6	5
Intersection Twelfth street and Georgia avenue southeast.....	1	6	4
Intersection Nineteenth and E streets southeast.....	1	6	4
Intersection Second and M streets southwest.....	1	6	4
Intersection Second and N streets southwest.....	1	6	4
Intersection Second and Canal streets southwest.....	1	6	4
Intersection Twelfth and B streets northeast.....	1	6	4
Intersection Fourth and M streets southeast.....	1	6	4
West side New Jersey avenue, center Q street, northwest.....	1	6	5
South side L street, center Second, northeast.....	1	6	2
East side Nineteenth street, between Georgia avenue and E street, southeast.....	1	6	2
Southeast corner North Capitol and L streets northeast.....	1	6	2
East side North Capitol street, center Jackson alley, northeast.....	1	6	2
South side C street, between New Jersey avenue and First street, northwest.....	1	6	2
Center G street, west side Delaware avenue southwest.....	1	6	2
Seventh street road, between Boundary and Pomeroy streets, northwest.....	1	6	2
Northeast corner First and B streets southeast.....	1	6	2
Northeast corner First and A streets southeast.....	1	6	2
Intersection Second and B streets southeast.....	1	6	2
Intersection Second and L streets northeast.....	1	10	2
East side Second street and Pennsylvania avenue southeast.....	1	12	2
Intersection Fourth and Q streets northwest.....	1	12	2
West side Seventeenth street, center U, northwest.....	1	12	2
Southwest corner Sixteenth and V streets northwest.....	1	12	2
Intersection Fourth and Q streets northwest.....	1	20	2
Northwest corner Seventeenth and L streets northwest.....	1	20	2
West side Seventeenth street, between Q and Corcoran, northwest.....	1	20	2
West side Seventeenth street, between Willard and U, northwest.....	1	20	2
Intersection Delaware avenue and E street southwest.....	1	6	3
Total.....	83		

The following stop valves have been connected to water mains and inclosed with brick walls and with cast-iron casings above them:

LOCATION.

Nineteenth and E streets southeast.
 Seventeenth and L streets northwest.
 Seventeenth and L streets northwest. Blow off.
 Fourth and Q streets northwest.
 Delaware avenue and K street northeast.
 Delaware avenue and I street northeast.
 T and Boundary streets northwest.
 L street, between New Jersey avenue and First street, northwest.
 Kirby and O streets northwest.
 First and O streets northwest.
 Fourth and M streets southeast.
 Fourth and G streets northeast.
 First street and Jackson alley northeast.
 Seventeenth street, between Q and Corcoran, northwest.
 Seventeenth street, between Q and Corcoran, northwest. Blow off.
 Fourteenth street and Maryland avenue northeast.
 Second and C streets southwest.
 Second and E streets southwest.
 Fifth and I streets northwest.
 Seventh street, between G and I, southeast.
 B street, between Third and Four-and-a-half, southwest.
 Tennessee avenue and A street northeast.
 Tennessee avenue and B street northeast.
 Twelfth and A streets northeast.
 Twelfth and B streets northeast.
 First street, between B and C street, southwest.
 Twelfth street, between G and H, northeast.
 Corner Nineteenth and E streets northwest.
 Corner Seventeenth and U streets northwest.
 First and G streets southwest.
 First and E streets southwest.
 Pierce Place, between Fourteenth and Fifteenth, northwest.
 S street, between Fourteenth and Fifteenth, northwest.
 Delaware avenue and E street southwest.
 West side North Capitol street, center Jackson alley, northwest.
 Seventeenth street, between T and U, northwest.

PUBLIC HYDRANTS.

Five new hydrants have been erected, six have been abandoned, thirty-nine have been erected in place of old ones, two have been moved to the new curb line.

Seven hundred and seventy-six repairs have been made to hydrants.

NEW HYDRANTS ERECTED—LOCATION.

Corner First and O streets northwest.
 Corner Fourth and K streets northeast.
 Corner Seventeenth and B streets northeast.
 H street, between Third and Four-and-a-half, southwest.
 E street, between Thirteenth and Fourteenth, southeast.

HYDRANTS REMOVED.

Corner Seventeenth street and Massachusetts avenue northwest.
 Corner Thirty-second and Water streets northwest.
 Corner Thirty-first and K streets northwest.
 M street, between Third and Fourth, northwest.
 H street, between Fourth and Fifth, northwest.
 First street, between B and C, northeast.

FOUNTAINS.

Three new fountains, presented by the Humane Society, were erected by the water division.

Sixty-nine repairs have been made to fountains.

NEW FOUNTAINS—LOCATION.

Corner Fourteenth street and Maryland avenue southwest.
 Corner Seventh and Boundary streets northwest.
 K street, between Twentieth and Twenty-first, northwest.

FIRE HYDRANTS.

Twenty-six new fire hydrants have been erected, one in the place of an old one, three have been changed to the new grade, seven have been moved to the line of the new curb.

Seven hundred and ninety-eight repairs have been made to fire hydrants.

Three old fire hydrants have been removed from the work-house grounds.

NEW FIRE HYDRANTS ERECTED—LOCATION.

Southwest corner Sixteenth street and Benning's road northeast.
 Northwest corner Thirty-second and P streets northwest.
 Northwest corner Twenty-third and E streets northwest.
 Northwest corner Thirteenth street and Massachusetts avenue northwest.
 Northwest corner Eighth and Boundary streets northwest.
 Northwest corner Twelfth and O streets northwest.
 Northwest corner Garfield and Columbia avenues northwest.
 Northwest corner Marion and Q streets northwest.
 Northwest corner Jefferson and K streets northwest.
 Northwest corner Twenty-ninth and M streets northwest.
 Northwest corner Columbia avenue and P street northwest.
 Northwest corner Valley and Stoddart streets northwest.
 Northwest corner Twenty-eighth and N streets northwest.
 Northwest corner Fifth and K streets northwest.
 Northwest corner Chapin and Fourteenth street extended northwest.
 Northwest corner Spruce and Larch streets, Le Droit Park.
 Northwest corner South Capitol and E streets southwest.
 Southwest corner First and L streets northeast.
 Southwest corner Fifth and L streets northwest.
 North side R street, between Ninth and Tenth, northwest.
 South side K street, between Fifteenth and Sixteenth, northwest.
 Seventh street road, between Boundary and Pomeroy streets, northwest.
 Southeast corner New York avenue and Boundary northeast.
 Sixteenth street extended (stand-pipe).
 Tenth street and Grant place.
 Corner New Hampshire avenue and M street northwest (Truck B).

ERECTED IN PLACE OF OLD ONE.

Corner Thirty-second and M streets northwest.

CHANGED TO THE NEW GRADE.

Corner Thirty-fifth and P streets northwest.
 East side North Capitol street, between G and H, northeast.
 West side North Capitol street, between G and H, northwest.

MOVED TO THE NEW CURB LINE—LOCATION.

Corner Twelfth and Boundary streets northwest.
 Corner First street and Indiana avenue northwest.
 Corner Thirty-fifth and N streets northwest.
 Corner Thirteenth and W streets northwest.

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Corner Third and C streets southwest.

Corner Fifth and C streets northeast.

Four-and-a-half street, between Pennsylvania and Missouri avenues.

The Meigs fire hydrant, located at the intersection of Thirty-third and S streets northwest, has been converted into a stop-valve.

SERVICE PIPES.

Three quarter inch galvanized iron service pipes have been laid to the curb line on the following streets and avenues :

Location.	No. of services.
Dunbarton avenue, between Twenty-eighth and Twenty-ninth streets, northwest.....	4
Dunbarton avenue, between Thirtieth and Thirty-first streets, northwest.....	20
Dunbarton avenue, between Thirty-first and Thirty-second streets, northwest.....	16
Thirty-fifth street, between N and O, northwest.....	15
Thirty-fifth street, between O and P, northwest.....	11
Thirty-fifth street, between P and Q, northwest.....	5
Four-and-a-half street, between Pennsylvania and Missouri avenue, northwest.....	6
Indiana avenue, between First and Second streets, northwest.....	2
Indiana avenue, between Second and Third streets, northwest.....	6
E street, between Eighth and Ninth, southwest.....	7
E street, between Ninth and Tenth, southwest.....	40
E street, between Tenth and Eleventh, southwest.....	3
<i>Service pipes lowered.</i>	
H street, between Fourth and Fifth, northwest.....	49
H street, between Fifth and Sixth, northwest.....	10
Corner Second and H streets, southwest.....	1
G street, between First and Second, northwest.....	1
Corner Eighth and B streets, southeast.....	1
Ninth street, between C and D, southeast.....	2
Total.....	199

TAPS.

One thousand nine hundred and forty-two $\frac{5}{8}$ -inch taps, 24 $\frac{3}{4}$ -inch taps, and 74 1-inch taps were made in water mains during the year.

Street washers and stop-cock boxes were adjusted to the new grade on the following streets and avenues :

Location.	Number.
C street, between Four-and-a-half and Sixth, southwest.....	15
E street, between Third and Four-and-a-half, southwest.....	21
Fourteenth street, between C and E, northwest.....	27
D street, between Thirteenth and Fourteenth, northwest.....	2
E street, corner Third, southwest.....	1
Eighth street, between B and C, southeast.....	8
Indiana avenue, between First and Second streets, northwest.....	8
I street, between Eighteenth and Twentieth, northwest.....	38
C street, between Sixth and Seventh, southwest.....	10
Corner Seventh and C streets, southwest.....	1
E street, between New Jersey avenue and North Capitol street, northwest.....	12
Virginia avenue, between First and Second streets, southwest.....	5
C street, between First and Second, northwest.....	25
I street, between Twentieth and Twenty-first, northwest.....	8
U street, between Tenth and Eleventh, northwest.....	15
H street, between Sixth and Seventh, northwest.....	4
Thirty-fifth street, between N and P, northwest.....	18
H street, between Fourth and Fifth, northwest.....	57
Fifth street, between L and M, northwest.....	1
North Capitol street, between G and H.....	3
Thirteenth street, between V and W, northwest.....	26
W street, between Twelfth and Thirteenth, northwest.....	3
Thirteenth street, between U and V, northwest.....	13
Q street, between Thirty-first and Thirty-second, northwest.....	3
C street, between Third and Four-and-a-half, southwest.....	33
E street, between Ninth and Tenth, southwest.....	26
D street, between Second and Four-and-a-half, southwest.....	14
Total.....	397

PUMPS.

Fifty-one new pumps have been erected in the place of old ones; ten pumps have been removed and wells abandoned and covered with flagging; four pumps have been moved to the line of the new curb; nine wells have been repaired and covered with flagging; seven wells have been cleaned out.

Four hundred and twenty-nine repairs have been made to pumps.

PUMPS ERECTED IN PLACE OF OLD ONES—LOCATION.

Corner Fourteenth and A streets southeast.
 Corner Seventh street and Virginia avenue southeast.
 Corner Eighth and E streets southeast.
 Corner Eighth and East Capitol streets southeast.
 Corner Ninth and C streets southeast.
 Corner Second street and Pennsylvania avenue southeast.
 Corner Fourteenth and C streets southeast.
 Corner Twelfth and G streets southeast.
 Corner Second and C streets southeast.
 Corner Tenth street and South Carolina avenue southeast.
 Corner Seventh and G streets southeast.
 Corner Seventeenth and M streets northwest.
 Corner Sixteenth and Corcoran streets northwest.
 Corner Seventh and H streets northwest.
 Corner Ninth and H streets northwest.
 Corner Ninth and East Capitol streets southeast.
 Corner Tenth and S streets northwest.
 Corner Eighth street and Grant avenue northwest.
 Corner M and Union streets southwest.
 Corner Seventeenth and A streets northeast.
 Corner Fifth and C streets northeast.
 Corner Tenth street and Vermont avenue northwest.
 Corner Twelfth and N streets northwest.
 Corner Thirty-fifth and V streets northwest.
 Corner L street and Vermont avenue northwest.
 Corner Thirty-second street and Dunbarton avenue northwest.
 Sixth street, between D and E, southeast.
 Eighth street, between N and O, northwest.
 Virginia avenue, between Twenty-first and Twenty-second streets, northwest.
 Four-and-a-half street, between C and Louisiana avenue, northwest.
 Eighth street, between B and C, southeast.
 T street, between Seventeenth and Eighteenth, northwest.
 E street, between Sixth and Seventh, southeast.
 Pennsylvania avenue, between Twenty-first and Twenty-second streets, northwest.
 Eighth street, between G and H, northwest.
 Fourth street, between P and Q, northwest.
 R street, between Eighteenth and Nineteenth, northwest.
 Q street, between Thirteenth and Fourteenth, northwest.
 Fourth street, between G and H, northeast.
 C street, between Fourteenth and Fifteenth, northeast.
 Corner Twenty-seventh and K streets northwest.
 Corner Four-and-a-half and E streets southwest.
 Corner Eighteenth and A streets northeast.
 Corner Third street and Indiana avenue northwest.
 Corner Fourteenth and K streets southeast.
 Corner Marshall and Sherman avenue northwest.
 In alley between East Capitol and A and Eighteenth and Nineteenth streets southeast.
 Staunton and Elm avenue, Hillsdale.
 Louise alley, between First and Second and A and B streets northeast.
 Corner Second street and Massachusetts avenue northwest.
 Corner Eighth and L streets northwest.

PUMPS MOVED TO THE NEW CURB LINE—LOCATION.

Corner Four-and-a-half and E streets southwest.
 Corner Eighth and A streets southeast.
 Eighth street, between G and H, northwest.
 Eighth street, between B and C, southeast.

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PUMPS REMOVED AND WELLS ABANDONED AND COVERED WITH FLAGGING.

Corner Ninth and B streets southeast.
 Corner Seventh and E streets southeast.
 Corner Eighth street and Sherman avenue northwest.
 Corner Nineteenth and Q streets northwest.
 Corner North Capitol and P streets northwest.
 Corner North Capitol and Boundary streets northwest.
 Corner Twenty-first and Q streets northwest.
 L street, between Ninth and Tenth, northwest.
 R street, between Fourth and New Jersey avenue, northwest, Hillsdale.

WELLS CLEANED OUT.

Corner Eighteenth and A streets northeast.
 Corner Third and C streets northeast.
 Corner Twelfth and N streets northwest.
 Corner Sixth and H streets northeast.
 Sixth street, between A and B northeast.
 Eighth street, between M and N, northwest.
 Corner L street and Vermont avenue northwest.

BRICK TRAPS TO PUMPS.

Corner Thirty-fifth and P streets northwest.
 Corner Seventh and H streets northwest.
 Corner Tenth street and South Carolina avenue southeast.
 Corner Third and C streets northeast.
 Sixth street, between A and B, northeast.
 H street, between Fourth and Fifth, northwest.
 Eighth street, between N and O, northwest.

Water-pressure gauges were connected to the water service-pipes in the following police stations and fire-engine and truck-houses January 1, 1887, and the pressure in the mains that supply them recorded daily.

On the 15th day of each month hourly pressures are taken and recorded.

POLICE STATIONS.

No. 2, Fifth street, between M and N northwest.
 No. 3, K street, between Twentieth and Twenty-first, northwest.
 No. 4, E street, between Four-and-a-half and Sixth, southwest.
 No. 5, E street, between Fifth and Sixth, southeast.
 No. 6, New Jersey avenue, between D and E streets, northwest.
 No. 8, U street, between Ninth and Tenth, northwest.

ENGINE HOUSES.

No. 1, K street, between Sixteenth and Seventeenth, northwest.
 No. 2, D street, between Twelfth and Thirteenth, northwest.
 No. 3, Delaware avenue, between D and E streets, northeast.
 No. 4, Virginia avenue, between Four-and-a-half and Sixth streets southwest.
 No. 5, M street, between Thirty-second and Thirty-third, northwest.
 No. 6, Massachusetts avenue, between Fourth and Fifth streets, northwest.
 No. 7, R street, between Ninth and Tenth, northwest.
 Truck "B," New Hampshire avenue, between L and M streets, northwest.

APPENDIX 14.

REPORT OF THE INSPECTOR OF BOILERS.

WASHINGTON, D. C., August 31, 1887.

GENTLEMEN: I have the honor to make a full report of the number of boilers inspected during the fiscal year ending June 30, 1887:

Number of boilers inspected.....	304
Number of new boilers erected.....	40
Number of boilers condemned for repairs.....	13
Number of boilers condemned as unfit for use.....	7
Number of boilers inspected and owned by District of Columbia.....	22
Total inspected	326

Since the law of Congress regulating steam engineering in the District of Columbia, I find it a benefit to my office, as it gives authority to inspect without the least opposition. There was no provision made by Congress to pay the expense of the examining board of engineers, and I would most respectfully ask for an appropriation of \$1,800 to pay the same, as the duties of the office are attended with a considerable amount of labor.

I would most respectfully recommend for your consideration the following for the bettering of the condition of my office :

SECTION 1. The boiler inspector and board of examiners shall be provided with an office in the District government building, suitably furnished, including all needed blanks, stationery, and the mechanical appliances needful for their official duties. Said board shall provide for regular sessions, and one of the board shall be secretary. Said board shall convene for business twice in each week to examine applicants for license the secretary shall keep a register of the names of all applicants, designating those found qualified; and those not qualified. Said board shall grant certificates of license by the authority of the Commissioners of the District of Columbia—for which they will receive the fee of three dollars for each license, as provided for by an act of Congress—to all applicants who upon examination shall have the capacity, skill, experience, and habits of sobriety requisite to perform the duties of an engineer; and no person possessing such qualifications shall be refused a license. Said board shall vise all engineers' licenses presented by the owners thereof, granted to them by the United States laws, which shall have the effect as license granted by the board; and the engineers whose licenses are vised by the board shall be subjected to the provision of this section. All certificates of licenses granted shall be signed by not less than two, and may be signed by all, members of the board. The board may adopt such rules and regulations as they shall deem proper, not inconsistent with this section and the general law. A full board of examiners by a unanimous vote shall have power to revoke an engineer's license for inebriety, dishonesty, or neglect of his duties, but no license shall be permanently revoked for cause without first giving the accused party an opportunity to be heard in his own defense.

SEC. 2. The boiler inspector shall devote the whole of his time and attention to the duties of his office, and also perform the duties of chairman of the board of examiners for engineers. He shall carefully inspect and test every stationary boiler and steam-generating apparatus under pressure used for stationary power as provided by this section, including all attachments and connections, located within the District of Columbia, at least once annually. He shall keep in the office of the board of examiners a complete and accurate record of the names of all owners or users of steam-boilers, giving a full description of the boilers inspected by him, and the amount of pressure allowed the date when last tested. He shall notify all owners or users of boilers of the time when a reinspection and test will be made, at least five days before the expiration of each certificate of inspection, and appoint a day on which he will make a reinspection. The certificate of inspection shall state the maximum pressure at which any boiler may be worked. In case a defect shall be discovered in any boiler or attachment thereto, the boiler inspector shall report the same to the owner or user of said boiler or boilers, and state the facts of the case in writing, giving a description of the particular locality in which each defect may be found, and whether of a dangerous character and necessitating immediate repair. If the boiler inspector shall at any time find a boiler which, in his judgment, is unsafe, after inspecting same he shall condemn its further use. All boilers to be tested by hydrostatic pressure shall be filled with water by the owners or users, and when leaks occur which prevent a successful test, the boiler inspector shall make a second test upon receiving notice that all leaks have been repaired. If upon making second test the boiler or boilers are still defective, he shall for each subsequent test collect an additional fee, but in no case shall he give a certificate until fully satisfied of the safety of the boiler or boilers. All certificates of inspection shall be for one year, and no longer.

SEC. 3. If owners or users of steam-boilers, or engineers in charge of the same, shall carry a greater pressure than is allowed in the certificate of inspection granted by the boiler inspector, they, or either of them, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined in a sum of not less than fifty dollars nor more than three hundred dollars, fines to be collected as all others in the District of Columbia, and in case of an engineer his license shall be revoked; or if such owners or users shall use any boiler which has been condemned as unsafe by the boiler inspector, they shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined in a sum not less than one hundred dollars nor more than five hundred dollars. All owners or users of any stationary boiler or boilers, or steam apparatus under pressure, shall have the same inspected once a year, and for every neglect or refusal to have

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such inspected shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined fifty dollars for each offense.

SEC. 4. Every owner or user of steam-boilers who shall neglect or refuse to employ a licensed engineer shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of fifty dollars.

SEC. 5. The boiler inspector shall receive as fee five dollars for each boiler inspected, to be paid by the owners or users of the same. The boiler inspector, upon receipt of the money for the inspection fees, shall promptly deliver to every owner or user of any boiler a certificate properly filled up and signed by the said boiler inspector. The certificate shall be displayed in some prominent place near where the boiler or boilers are used.

SEC. 6. The boiler inspector shall report to the Commissioners of the District of Columbia the date, name of owner, and the locality of every accident, whether it be from a rupture or collapse of flue, or explosion of the shell of a boiler, stating his belief as to the cause thereof.

SEC. 7. Steam-boilers supplied with water automatically, and having no pump or injector, and used only for heating dwelling-houses, not carrying under pressure over eight pounds of steam per square inch, are exempt from the provision of this section.

SEC. 8. Every applicant for a license who fails to pass the examination of the board is required to wait six months before again making application for a license, and the board shall give him another examination.

Every engineer licensed by the board or whose license is vided by the board is required to notify the board when he accepts or leaves his employment, and within ten days thereafter the name of his employer and the location of the boiler or boilers in his charge. Any engineer who fails to give such notice may have his license revoked by the board.

Yours respectfully,

JOHN H. WILKERSON,
Steam Boiler Inspector, District of Columbia.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

APPENDIX 15.

REPORT OF CAPTAIN GRIFFIN ON THE METHODS OF MANUFACTURING ASPHALT PAVING BLOCKS.

DISTRICT OF COLUMBIA,
Washington, September 1, 1887.

COLONEL: In compliance with the Commissioners' order of July 25, 1887, and your order of July 30, 1887, I accompanied you to New York City and to Hastings, N. Y. (August 1, 1887), to inspect the asphalt-block factory at that place. Subsequently I inspected the works of the Trinidad Asphaltum Company, Philadelphia (August 3); the works of the Asphalt Block Company, of Philadelphia, in Norristown, Pa. (August 3), and the works of the Maryland Pavement Company, Baltimore, Md. (August 4).

Special acknowledgments are due to Mr. W. S. Wilkinson, president Maryland Pavement Company; Mr. C. G. Palmer, president Hastings Pavement Company, and Mr. William Calhoun, secretary Asphalt Block Company, of Philadelphia, for courtesies extended. Every possible facility was offered to insure a complete and thorough inspection.

The process of manufacture is similar at all the works. The asphalt is refined in large kettles, heated to a temperature of 300 degrees and constantly agitated by longitudinal paddles revolving about a horizontal axis. A considerable expenditure of power is required to drive these paddles, and at Hastings we saw in operation for the first time the air blast which it is proposed to use in lieu thereof. A pipe extending down through the asphalt has cross connections on the bottom, pierced

with suitably-sized holes at proper intervals. The air forced through the pipe under regulated pressure agitates the mass with equal uniformity and far more economy than the paddle system. The reports from Hastings are very satisfactory and it is probable that the air blast will be introduced in all the works.

The asphalt is not used until after at least twenty-four hours' refining. Two kettles are required. From one the asphalt is gradually drawn off to make the block mixture, while in the other the asphalt is being refined for the next day's work.

The crude asphalt is obtained from the island of Trinidad and is of variable composition. A sample from the Maryland Pavement Company's works was analyzed, with the following result:

	Per cent.
Moisture, etc. (loss at 100° C.).....	16.60
Bituminous substance (Sol C S ₂).....	56.14
Organic matter insoluble.....	18.21
Mineral matter, ash.....	9.05
	100.00

In refining, much of the foreign organic matter and some of the ash could not be removed on account of their fineness. The total loss would probably reach about 33 per cent.

Our specifications provide as follows:

The paving cement will be made from refined Trinidad or other acceptable asphaltum and heavy petroleum. The petroleum must be freed from all impurities and brought to a specific gravity of from 18 degrees to 20 degrees Baumé and a fire-test of 250 degrees Fahrenheit.

The proportions of the mixture are not prescribed. In practice about 9 per cent., by weight, of heavy petroleum is added to the crude asphalt in the refining kettle, the weight of the former being the basis of the mixture. This introduces an element of uncertainty, as the composition of the crude asphalt varies, the proportion of water alone ranging between 25 per cent. and 33 per cent. It would be preferable to determine the necessary proportion of oil to the refined asphalt and make the mixture uniform in this way. The 9 per cent. of petroleum is based on the average crude asphalt, and it is probable that the variations from the mean result do not seriously affect the uniformity and durability of the blocks.

Limestone is the only variety of stone which it has been found possible to use in the manufacture of asphalt blocks. Granite, trap, and other rocks have been tried unsuccessfully. The lack of cohesion between the stone and asphalt destroys the durability of the block. The value of the latter varies with different limestones according to some law as yet unknown. At the Hastings Company's works the stone is obtained from Verplank Point, 25 miles up the Hudson. Stone from Tompkin's Cove, on the west bank of the Hudson, was used recently with such poor results that twenty-three thousand of the blocks furnished to the District were condemned. The use of the Verplank Point stone was resumed and the blocks are now of first-class quality. The chemical composition of these stones is given in the following table:

- (1) Tompkin's Cove blue stone.
- (2) Verplank Point blue stone.
- (3) Baltimore Company's white limestone.
- (4) Baltimore Company's blue limestone.
- (5) Norristown Company's blue stone.

Chemical composition.

Constituents.	1.	2.	3.	4.	5.
Water	.05	.....	.20	.....	.09
Silica	2.58	2.61	17.16	1.76	.30
Iron	.71	.40	.85	1.89	.43
Lime	30.12	30.96	45.64	53.77	31.08
Magnesia	19.67	19.88	.40	.25	20.91
Carbonic acid	45.82	45.50	35.85	41.60	45.56
Phosphoric acid .....	.....	.....	.....	.04	.....
Total	98.95	99.35	100.10	99.31	99.36

The Tompkin's Cove, Verplank Point, and Norristown stones are dolomites, or magnesian limestones.

The stone is crushed fine in an ordinary crusher and then passed through rolls and over screens in order that no fragment having a greater dimension than one-fourth of an inch shall enter the block mixture. The crushed stone, including the fine dust (about 60 per cent. of the whole), is transported by an endless carrier to one end of a revolving cylinder heated to a temperature of about 275 degrees. The stone gradually works to the other end of the heater, from whence it is taken to make the block mixture. This mixture consists of about 88 per cent. stone and 12 per cent. paving cement. At Hastings and Philadelphia the proportions are determined by actual measurement. At Norristown and Baltimore the measurement is only partial, the judgment of an experienced workman being regarded as preferable to absolute measurement. The latter may be preferable where the experience is available, and where variations exist in the quality and temperature of the asphalt and stone; but these variations ought not to exist, and exact measurements are the only basis upon which exact results can be predicated. The mixture is made in a steam-jacketed semi-cylinder of iron with revolving spiral paddles which thoroughly incorporate the ingredients and gradually work the material to the open end near the press. As fast as the mixture issues it is shoveled into the feed-pipe of the press.

Three varieties of presses are in use, the Walker, McCarter, and Dietz. The first two have single molds, the latter has twenty molds on the periphery of a revolving wheel. The Walker press is in use at Hastings and Baltimore, the McCarter at Norristown, and the Dietz at Philadelphia. In the Walker press the feed-pipe is movable, being placed in a "sliding head." When the pipe is directly over the mold the plunger is $7\frac{1}{2}$ inches below the bottom of the latter, and the column of granulated material is from $2\frac{1}{2}$ to 3 feet in height. This column is cut off by the backward motion of the "sliding head," the solid portion of which remains over the mold (held down by heavy guides) while the plunger ascends, compressing the material and reducing it from $12\frac{1}{2}$ to 5 inches in depth. The plunger "dwells" for a fraction of a second at the point of greatest pressure and then drops about one-fourth of an inch, removing all pressure. The sliding head is then thrown back so as to uncover the block, the plunger lifts it above the mold, and the return of the sliding head to its original position pushes the completed block on to an endless-chain carrier, where it is immediately subjected to a water spray and is carried gradually under constantly flowing water for a distance of 60 feet before it is removed to the pile. The guides of the sliding head are fastened to the bed-plate of the plunger by rods with heavy spiral springs, adjusted to a pressure of from 75 to 100 tons. The press-

ure on each block should be sufficient to slightly compress the springs. In case it is not, the depth of the column of mixture can be increased until this result is obtained. In the Hastings press the pressure is 75 tons per block or 1.56 tons per square inch. At Baltimore the pressure varies from 90 to 100 tons, or about 2 tons per square inch.

Blocks are turned out at the average rate of ten per minute, or 6,000 per day of ten hours' work.

The McCarter press at Norristown is similar to the Walker, with the exception that the feed-pipe is fixed and the mold is movable. The plunger works in the same way, with a pressure of 96 tons, or 2 tons per square inch. Blocks are manufactured at about the same rate as with the Walker press.

The Dietz press in Philadelphia is very similar to the ordinary brick-making machine. The plate on which the pressure is applied covers three blocks, and therefore acts as a strong brake on the wheel. It is stated, however, that no greater power is required to run this press than the others. The Philadelphia works were not running at the time of my visit, and I therefore missed the advantage of seeing this press in operation. A 50 horse-power engine suffices to do all the work at this factory, running the stone-crushers, the rolls, the endless-chain carriers, the kettle-paddles, the press, and the carrier for finished blocks, with power to spare.

The average asphalt block is 5 by 4 by 12 inches in dimensions, and weighs from 21 to 22 pounds, according to density of stone.

The paving cement is composed of 100 pounds crude asphalt to 9 pounds residuum of petroleum, or 91.8 per cent. asphalt and 8.2 per cent. residuum. In the refining process the asphalt loses about one-third of its weight, and the paving cement, as used, is composed of 88 per cent. asphalt and 12 per cent. residuum. At the Baltimore works the block mixture is made by adding 12 pounds of cement to 100 pounds of stone, or 89.3 per cent. stone to 10.7 per cent. cement. The block is therefore composed of:

	Per cent.
Weight of limestone	89.3
Weight of asphalt	9.4
Weight of residuum	1.3

The residuum of petroleum, sometimes called "still bottoms," is what remains after naphtha, gasoline, benzine, kerosene, etc., have been driven off by heat. Its specific gravity is from 16 to 18 degrees Beaumé. In this respect the Baltimore blocks do not conform to the District specifications, which require heavy petroleum with a specific gravity of from 18 to 20 degrees Beaumé. The heavy petroleum is preferable, as it makes a better block, but is more expensive.

The present methods of manufacture are defective in the following respects:

(1) Residuum of petroleum is used in place of heavy crude petroleum:

(2) The paving cement is not a uniform mixture.

(3) The mixture of stone and paving cement is not uniform.

(4) The pressure on the blocks is not uniform.

None of these are vital defects, but they are of more or less importance, and can and should be obviated.

Hydrostatic pressure would be preferable in every respect to the use of cams, and I understand that such presses are now in use in Chicago, in the manufacture of Pelletier blocks, capable of producing pressures up to 600 tons with rapidity and uniformity.

Asphalt blocks were first made by hand in San Francisco in 1869. A factory was erected at Stony Point, N. Y., in 1872, but the machinery was crude, and the company failed. Shortly afterward a machine was erected at Sing Sing, N. Y., which produced very fair blocks. The present factory at Norristown was established about 1879. Some of the blocks made at this factory during the first year are still in use as the roadway pavement of Sixth street, near Chestnut, in Philadelphia.

The factory subsequently established at Providence, R. I., turned out some good and many bad blocks. This factory was abandoned and new works erected at Hastings in 1880-'81. The Baltimore and Chicago factories were established in 1882, and the Philadelphia works began operations in 1885.

As nearly as can be ascertained, asphalt block pavements have been laid on city streets as follows :

	Square yards.
Washington	96,000
Chicago	65,000
Baltimore, laid	75,000
Baltimore, under contract	35,000
Philadelphia	50,000
Camden, N. J.	40,000
Trenton, N. J.	20,000
Buffalo, N. Y.	*20,000

and several thousand yards in other cities.

The durability and value of this pavement would be greatly increased by laying the blocks on an hydraulic or bituminous concrete foundation. If the blocks were laid flat, such a pavement would not cost over \$2.25 or \$2.30 per square yard.

Very respectfully,

EUGENE GRIFFIN,
Captain of Engineers, U. S. Army.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District of Columbia.

APPENDIX 16.

OFFICE OF HARBOR-MASTER,
Washington, D. C., August 8, 1887.

COLONEL: I have the honor to submit herewith the sixth annual report as harbor-master for the year ending June 30, 1887, together with tabular statements explaining the operation of this service.

Again, as heretofore, I respectfully but earnestly renew my suggestion in regard to the Commissioners making regulations (if in their power so to do) governing and protecting the harbor-master in the discharge of his duties; also in relation to procuring a tug-boat for reasons set forth in my third annual report.

It would also facilitate the business of the river-front if the channel, which is now dredged to a width of about 400 feet, be dredged to the sea wall, about 800 feet, which would give ample space for moorage, in which the harbor is now sadly deficient.

I am, sir, very respectfully, your obedient servant,

J. R. SUTTON,
Harbor Master.

Col. WILLIAM LUDLOW,
Engineer Commissioner, District Columbia.

Statement showing, by months, the arrivals of boats in harbor of Washington, together with specifications of cargoes carried during year ending June 30, 1887.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Hard coal:													
Schooners	27	19	11	26	26	4	.....	.....	8	12	22	7	162
Barges	36	44	37	41	50	2	5	4	.....	6	17	7	249
Lumber	25	31	28	21	26	10	1	6	31	33	43	25	272
Ice	19	22	13	10	7	6	.....	.....	4	1	12	18	112
Soft coal	148	282	226	63	60	.....	.....	.....	24	101	34	121	1,059
Wheat	15	3	.....	3	9	.....	.....	.....	.....	.....	.....	.....	30
Asphalt	3	2	4	1	1	1	.....	.....	1	2	1	2	18
Guano	6	2	.....	1	.....	.....	.....	.....	.....	2	.....	1	12
Shingles	2	4	.....	2	.....	.....	.....	1	.....	1	2	2	14
Laths	2	1	3	4	.....	1	1	.....	.....	1	1	.....	14
Cedar posts	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Hollow brick	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
Apples	2	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Watermelons	7	75	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	89
Gas-pipe	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3
Kinate	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Stone	2	.....	3	1	4	.....	.....	.....	.....	.....	4	4	18
Cement .....	.....	3	3	.....	1	1	.....	.....	1	2	2	.....	13
Plaster .....	.....	1	.....	2	.....	.....	.....	.....	.....	1	3	.....	7
Phosphate .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Pears .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Sweet potatoes .....	.....	7	4	8	10	.....	.....	.....	.....	.....	.....	.....	29
Fertilizers .....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
White sand .....	.....	.....	2	.....	.....	.....	.....	.....	1	19	6	.....	28
Wood	103	135	130	116	89	23	.....	26	56	176	70	95	1,019
Oysters .....	.....	.....	49	157	119	49	18	44	62	58	14	.....	568
Oil .....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	2
Salt .....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	1	.....	3
Canned fruit .....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	2
Corn .....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Piles .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Pickets .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Hay .....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	4

List of steam-vessels plying upon the Potomac River.

Vessels.	Service.	Vessels.	Service.
STEAM-BOATS.		TUG-BOATS—continued.	
Excelsior	Washington to Norfolk 3 times per week.	A. P. Gorman	Towing on river.
Geo. Leary	Do.	G. W. Pride	Do.
Lady of the Lake	Do.	Ella Pearce	Do.
Jane Mosely	Do.	D. M. Key	Do.
Mattano	River landings.	Comet	Do.
T. V. Arrowsmith	Colonial Beach.	Mary Lewis	Do.
John W. Thompson	River landings.	Potomac	Do.
W. W. Corcoran	Mount Vernon, daily, and excursions.	Templar	Do.
Mary Washington	River View.	J. A. Jackson	Do.
City of Alexandria	Alexandria, 7 trips daily.	Henry Winship	Do.
City of Washington	Do.	Zeta	Do.
Sue	Baltimore, weekly.	Hansom M. Keys	Do.
Norfolk	Philadelphia, weekly.	Hercules	Do.
E. C. Knight	New York, weekly.	Samson	Do.
Jno. Gibson	Do.	Hattie	Do.
Henry Bishop	Lower Cedar Point.	Annie	Do.
Northampton	Chapel Point.	Edwin D. Hartly	Do.
Pilot Boy	Glymont.	Juno	Do.
Occoquan	Tivoli Park.	Keystone	Do.
Wakefield	Lower river landings.	Bruce	Do.
Dixie	Upper river landings.	Commodore Foote	Do.
TUG-BOATS.		Wecacoe	Do.
Gilmore Meredith	Towing on river.	Wm. M. Dove	Do.
Fannie Gilbert	Do.	E. E. Jackson	Do.
		Spray	Do.
		Deboss Lenox	Do.

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Statement showing, by months, the material which composed cargoes of vessels landing in the harbor of Washington during the year ending June 30, 1887.

	July.	August.	September.	October.	November.	December.
Hard coal:						
Schooners.....tons..	5,785	4,582	2,064	8,146	9,320	1,976
Barges.....do.....	7,090	8,380	7,440	7,960	9,000	525
Soft coal, barges.....do.....	16,168	22,270	23,980	6,804	6,660	.....
Stone.....do.....	570	.....	910	350	1,172	.....
Ice.....do.....	15,531	18,903	10,772	8,490	6,687	4,678
Kinate.....do.....	100	319	.....	.....	.....	.....
Fertilizer.....do.....	.....	350	100	.....	.....	.....
Phosphate.....do.....	.....	389	.....	.....	.....	.....
Guano.....do.....	1,715	600	.....	200	.....	.....
Hollow brick.....do.....	228	.....	.....	254	.....	.....
White sand.....bushels.....	.....	.....	1,600	.....	.....	.....
Oysters.....do.....	.....	.....	49,200	64,100	55,430	12,300
Wheat.....do.....	4,758	12,500	.....	3,600	16,980	.....
Corn.....do.....	.....	.....	.....	.....	3,200	.....
Sweet potatoes.....do.....	.....	1,650	910	4,500	3,860	.....
Laths.....number.....	1,120,000	1,500,000	1,250,000	4,300,000	.....	1,705,300
Shingles.....do.....	10,000	131,600	.....	320,000	.....	.....
Melons.....do.....	20,800	148,600	19,000	.....	.....	.....
Cedar posts.....do.....	500	1,300	.....	.....	.....	.....
Plaster.....barrels.....	.....	1,300	.....	3,600	.....	.....
Residuum oil.....do.....	.....	.....	.....	250	.....	.....
Apples.....do.....	350	575	.....	.....	.....	.....
Pears.....do.....	.....	150	.....	.....	.....	.....
Lumber.....feet.....	2,686,000	3,148,000	2,337,000	2,390,000	2,812,000	750,000
Wood.....cords.....	2,820	3,358	3,661	3,087	2,905	628
Canned fruit.....boxes.....	.....	.....	.....	3,000	3,000	.....
Cement.....barrels.....	.....	7,350	3,560	.....	850	1,500
Asphalt.....tons.....	970	872	2,050	300	600	400
Gas-pipe.....do.....	75	75	.....	.....	106	.....
Salt.....sacks.....	.....	.....	.....	.....	1,800	.....

	January.	February.	March.	April.	May.	June.	Total.
Hard coal:							
Schooners.....tons.....			1,531	3,559	6,292	1,213	44,468
Barges.....do.....	940	730	.....	1,080	3,365	1,710	48,220
Soft coal, barges.....do.....			2,802	10,996	5,967	13,488	109,135
Stone.....do.....					1,401	1,325	5,818
Ice.....do.....			3,189	800	10,624	15,175	94,849
Kinate.....do.....							419
Fertilizer.....do.....							450
Phosphate.....do.....							389
Guano.....do.....				212	.....	300	3,027
Hollow brick.....do.....							482
White sand.....bushels.....			1,600	15,000	3,000	.....	21,200
Oysters.....do.....	17,920	31,880	49,630	45,720	6,500	.....	332,680
Wheat.....do.....							37,838
Corn.....do.....							3,200
Sweet potatoes.....do.....							10,920
Laths.....number.....	1,526,000	.....	.....	1,088,000	1,250,000	.....	13,739,300
Shingles.....do.....		300,000	.....	100,000	541,650	180,000	1,583,250
Bales hay.....do.....		950	.....	.....	.....	.....	950
Melons.....do.....							188,400
Piles.....do.....		800	.....	.....	.....	.....	800
Cedar posts.....do.....							1,800
Plaster.....barrels.....				300	6,425	.....	14,325
Residuum oil.....do.....			400	.....	.....	.....	650
Apples.....do.....							925
Pears.....do.....							150
Lumber.....feet.....	90,000	792,000	3,358,000	2,990,000	3,978,000	2,788,000	28,119,000
Wood.....cords.....		841	1,613	3,796	2,240	2,290	27,239
Canned fruit.....boxes.....							6,000
Cement.....barrels.....			3,000	2,350	5,550	.....	24,160
Asphalt.....tons.....			538	780	320	1,068	7,898
Gas-pipe.....do.....							256
Salt.....sacks.....				665	1,400	.....	3,865
Fence pickets.....	18,490	.....	.....	.....	.....	.....	18,490

Statement showing, by months, the departures of boats from harbor of Washington, together with specifications of cargoes carried during year ending June 30, 1887.

Months.	Num- ber of ves- sels.	Tons of soft coal.	Num- ber of ves- sels.	Tons of com- post.	Number of boats moved to keep docks and channels clear.
July.....	49	26, 212	.....	.....	32
August.....	50	28, 578	.....	.....	30
September.....	18	11, 064	28	3, 000	31
October.....	44	30, 341	18	1, 900	44
November.....	31	17, 955	10	1, 200	31
December.....	10	5, 816	.....	.....	11
January.....	.....	.....	.....	.....	.....
February.....	.....	.....	25	2, 700	3
March.....	3	762	.....	.....	12
April.....	7	2, 811	.....	.....	27
May.....	8	10, 774	.....	.....	31
June.....	8	4, 826	.....	.....	45
Total.....	238	139, 139	81	8, 800	297

APPENDIX 17.

The examining board of steam engineers beg leave to submit the following report for the six months beginning April 26, to October 31, 1887. The following table will show how the work progressed in each month:

Month.	Meetings held by board.	Applica- tions re- ceived.	Applica- tions on hand.	Applicants examined and approved.	Not approved.	Applica- tions ap- proved on account of United States li- cense.
April.....	6	262	.....	.....	.....	.....
May.....	17	92	.....	191	.....	.....
June.....	22	39	.....	132	.....	.....
July.....	13	14	.....	15	.....	.....
August.....	10	43	.....	52	.....	.....
September.....	10	23	.....	27	.....	.....
October.....	8	20	11	16	49	22
Total.....	86	493	11	433	49	22

Besides the number of meetings at night the board have visited 191 places of business where steam is used, and have found a large number of boilers of which the boiler inspector had no record. Boilers were found without steam-gauges and without gauge-cocks, and with steam-whistles placed on the exhaust side of safety-valve, and the safety-valve weighted down with horseshoes, old hoops, and a number of other defects were found, which were ordered by the board to be removed and put in order. This work has consumed fifty-six full days, not excluding the boiler inspector's time. There are also at the present time a large number of places that are running without a licensed engineer, of which there are—

Mades' Hotel, Third street and Pennsylvania ave-
nue.
George Holmes, 602 Pennsylvania avenue.
Orrison's, 1216 Pennsylvania avenue.
Cropley's grocery, Georgetown, Thirty-fourth and
M streets.
Baltimore and Ohio drove-yard.
Garfield Hospital.
Kernan's Theater.
National Theater.
Albaugh's Opera House.
Cornwell's, Tenth street and Maryland avenue
southwest.

Willard's Hotel, at night.
Belvedere Hotel.
Bun Bryan's, Pennsylvania avenue, between
First and Second streets.
Donnelly's, corner Fourteenth and I streets north-
west.
Tremont House, corner Indiana avenue and Sec-
ond street northwest.
High School.
Columbia College,
Columbia University, Fifteenth and H streets
northwest.

Your board would suggest that section 1 of the law be so amended as to put a fine of \$10 per day on any person running a steam-boiler that is not automatic; and would also suggest that in section 6, which provides for exemptions, that they should only extend to private dwellings, as the examiners find that there are quite a number of business places and banks and office buildings that are putting on automatic appliances to avoid the law, and as these boilers are large and need constant care, that a licensed man should have charge of them; and would also suggest that after the 1st of March next there be three grades of engineers: first, second, and third; the third grade to consist of such places as wood-yards, oyster-steaming, dye-houses, small boilers for pumping, etc.; the second grade, boilers and pumps for heating and elevators, and boilers and engines from 25 to 50 horse-power.

The first grade shall consist of boilers and engines of 50 horse-power and over, and places where electric lights are used, and such places as where large assemblies assemble, and that a license is only good for the place issued for.

JOHN H. WILKERSON.
JOHN F. REILLY.
A. A. DULY,
Secretary of Board of Engineers.

The COMMISSIONERS.

APPENDIX 18.

REPORT OF THE CHIEF CLERK OF THE WATER DIVISION.

ENGINEER DEPARTMENT, WATER OFFICE,
August 20, 1887.

CAPTAIN: I have the honor to make the following report of the operations of the water office for the fiscal year ending June 30, 1887:

WATER INSPECTIONS.

Inspections made	50,094
Leaks found, first examination	4,167
Leaks repaired, second examination	3,986
Water-wastes found	348
Warrants obtained	125
Recovered in the police court for fines, forfeits, and personal bonds	\$585
Water bills delivered	13,524
Notices for separate services delivered	1,286
Notices for special water-tax sent	727
Assessments for water-tax made	46
Regular assessments made	14
Special assessments made	111
Persons refused admission	15
Stop-boxes lowered	236

I would make the following suggestions:

That a rate be fixed for elevators (hydraulic) according to the stories that they travel.

That the rate for barber-shops be changed from \$6 to \$12 to a given rate per chair.

That a special rate be charged for drug-stores, depending on the number of fixtures, and a rate given for soda fountains.

That buildings that have a number of tenants and used for business purposes be rated according to the number of fixtures in the building. This to include office buildings and all buildings where more than ten persons are employed, or where more than this number of occupants, excepting mills, and in mills some rate be fixed according to the number of persons employed.

That laundries be changed from \$5 to \$10 per year to a standard rate per machine, and a rate be charged for each stationary washtub.

That steam-boats be charged so much for each 25 tons of its rated tonnage.

That boarding-schools be charged at the same rate as boarding-houses.

That a definition be given to stores, shops, etc., when connected with dwelling-houses.

That a formula be made as the official formula for rating steam engines and boilers.

That when boilers are used for heating houses, or where the domestic rate only is charged, the rating be a percentage of the water-rent (D. P.) given on the boiler rate.

That on eating-houses or dining rooms a rate be set according to the seating capacity of the dining room.

That where houses occupying irregular-shaped lots (such as the house on New Hampshire avenue, N, and Twentieth streets), a rate to be established independent of the "front-foot rate."

That where a cut-off is made and subsequently turned on for cause, it frequently happens that the employé has to visit the premises several times before he can obtain access to them to see that the fixtures are in proper condition to turn on, thereby taking up his time and preventing his attention to other business; a small charge should be made for each visit after the first, to cover the time of the employé in making the turn-on.

That in regard to the non-delivery on the premises of the water-rent bills by the inspectors, I can not think otherwise than that it has resulted satisfactorily. Heretofore when the bills were delivered by the inspectors they were left at the houses of the water-takers, who in many cases had no interest in paying the bills, and were indifferent about giving them to the landlord, and when they were left with servants or irresponsible persons, at the owners' houses, they were, in a great many cases, lost or carelessly thrown about, and the owner did not get them at all, or they overlooked the time of payment, and in these ways many persons were subjected to the penalty for cut off, which gave rise to a great deal of dissatisfaction and unjust criticism, besides necessitating the making out of at least one-half of the bills a second time, entailing much extra labor on the office. As it is, the water-rents have never been paid so promptly, and so large a proportion of the amount due been received up to the present time, showing that the water-takers at large are not dissatisfied with the arrangement. I would recommend that the same course be pursued in the future.

Very respectfully, your obedient servant,

JNO. J. BEALL,
Chief Clerk Water Department.

Capt. THOMAS W. SYMONDS, U. S. A.,
Assistant to the Engineer Commissioner, District of Columbia.

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APPENDIX 19.

SCHEDULE OF WORK RECOMMENDED FOR 1888-'89.

General schedule of streets recommended for improvement, 1888-'89.

Location.	Square yards.	Estimated total cost.
Replacement of wood pavements:		
C street, SE., from Fourth to Sixth, north side	1,685	\$4,150
C street, SE., from Fourth to Sixth, south side	1,663	4,146
North Carolina avenue, S. E., from Fourth to Sixth	2,138	5,176
Fifth street, SE., crossing square	518	1,216
Fourth street, SE., from Pennsylvania avenue to C	1,391	3,582
D street, SE., from Seventh to Ninth, south side	1,386	3,249
D street, SE., from Pennsylvania avenue to Eighth, north side	460	1,000
South Carolina avenue, SE., from Seventh to Pennsylvania avenue	877	2,189
Seventh street, SE., from D to South Carolina avenue	1,285	3,076
Total wood pavements		27,784
C street (SE. and W.), from First to New Jersey avenue		16,000
Maryland avenue, NE., from Sixth to Boundary		34,000
Including intersection at boundary	1,150	3,163
Pennsylvania avenue, SE., from Eleventh to Bridge (G. and R.)		20,000
Brightwood avenue (Seventh street extended), from Grant avenue to Princeton	(*)	16,199
Seventh street, NW., from Q to Boundary	(*)	11,235
Eleventh street, SE., from M to Pennsylvania avenue		35,200
Eleventh street, SE., from M to Bridge, east side	(*)	13,590
Thirty-fifth street, Georgetown, from Q to Tennallytown road		37,450
Four-and-a-half street, SW., from Missouri avenue to Maryland avenue	4,950	14,850
Four-and-a-half street, SW., from H to Arsenal	14,624	43,926
Harrison street (Anacostia), from Bridge to Taylor	8,760	26,280
Total		299,667

* Granite.

Special schedule of streets recommended for improvement, 1888-'89.

Location.	Square yards.	Estimated total cost.
Georgetown.		
Thirty-fourth street, from M to N	2,207	\$7,850.00
Thirtieth street, from P to Q	1,500	4,875.00
Q street, from Twenty-ninth to Thirtieth	1,200	4,200.00
Prospect avenue, from Thirty-fourth to Thirty-sixth	2,100	7,261.00
Twenty-eighth street, from M to N	1,800	5,640.00
Thirty-third street (regulating from P street northward)		3,586.63
Total for Georgetown		33,412.63
Northwest.		
S street, from Seventh to Eleventh	4,897	17,089.00
Seventeenth street, from Q to R	2,138	8,223.00
New Hampshire avenue, from Q to R	12,877	11,000.00
I street, from Twenty-first to Twenty-second	2,647	7,716.00
New York avenue, from Fifth to Seventh	6,000	21,846.00
Fifteenth street, from Pennsylvania avenue to New York avenue, west side	2,370	7,110.00
Twenty-third street, from I to Pennsylvania avenue	1,408	4,882.00
Seventh street, from E to G, west side	1,625	4,500.00
Q street, from Fifth to Sixth	900	2,700.00
Q street, from Seventeenth to Connecticut avenue	7,032	17,580.00
R street, from Seventh to Ninth	1,602	5,583.00
R street, from Sixteenth to Seventeenth	1,858	6,282.00
Eleventh street, from O to Rhode Island avenue	1,114	5,184.00
Twenty-fifth street, from Pennsylvania avenue to M	1,707	4,000.00
O street, from Twenty-first to Twenty-second	2,270	7,144.00
Thirteenth street (intersection B)	600	1,500.00
C street, from First to New Jersey avenue	(*)	4,960.00
Twelfth street, from R to S	4,195	9,250.00
I street, from Twentieth to Twenty-first	1,824	5,530.00
I street, from Twenty-second to Twenty-third	1,654	5,193.00
Corcoran street, from Fifteenth to Seventeenth	2,629	11,133.00
Q street, from Rhode Island avenue to Vermont avenue	2,792	9,614.00
Eleventh street, from Rhode Island avenue to R	1,234	5,704.00
Eighth street, from S to T	5,250	6,000.00

* Widening.

Special schedule of streets recommended for improvement, 1888-'89—Continued.

Location.	Square yards.	Estimated total cost.
<i>Northwest—Continued.</i>		
Twenty-fifth street (G. and R.), from K to New Hampshire avenue.....	3,900	\$6,945.00
N street (G. and R.), from Third to North Capitol	6,700	12,260.00
New York avenue, from Fifth to New Jersey avenue	7,560	20,663.65
Fifth street, from O to Q	1,200	12,000.00
Twenty-second street, from M to O	4,704	15,000.00
F street (G. and R.), from Twenty-third to Twenty-fourth	6,000	3,000.00
Total for northwest.....		259,611.65
<i>Southwest.</i>		
G street, from Third to Four-and-a-half.....	2,720	5,732.00
I street (G. and R.), from First to Water.....	13,250	16,562.00
C street, from Twelfth to Fourteenth.....	3,900	11,700.00
Thirteenth street, from Maryland avenue to Water	1,800	5,400.00
Ninth street, from B to C	1,350	3,712.00
G street (G. and R.), from Third to South Capitol	7,290	9,422.00
Canal street (G. and R.), from B to First.....		9,234.75
Total for southwest.....		61,762.75
<i>Southeast.</i>		
Pennsylvania avenue, from Ninth to Tenth		3,700.00
First street, from C to D	1,100	3,575.00
D street, from Third to Sixth.....	3,840	12,240.00
Seventh street, from D to Virginia avenue	7,000	22,600.00
Sixth street (pave), from E to Virginia avenue	5,000	17,000.00
D street (G. and R.), from Ninth to Eleventh.....	2,200	4,080.00
H street (G. and R.), from First to Second	3,200	4,425.00
South side of Lincoln Square		1,000.00
C street, from Sixth to Seventh	2,000	6,000.00
C street, from Seventh to eastward (G. and R.).....		4,425.00
Total for southeast.....		79,045.00
<i>Northeast.</i>		
C street, from Sixth to Eighth.....	4,100	12,300.00
B street (G. and R.), from Eleventh to Fourteenth	7,900	7,855.00
C street (G. and R.), from Eighth to Eleventh.....	4,000	6,640.00
G street (G. and R.), from Second to Sixth	5,400	9,380.00
Third street (G. and R.), from E to H	5,800	9,195.00
Second street (G. and R.), from F to H	4,000	6,000.00
Seventh street, from B to D	3,400	11,050.00
Massachusetts avenue, from Sixth to Seventh		10,000.00
Total for northeast		72,420.00

Constructing county roads and suburban streets.

Pennsylvania avenue extended, eastern section	\$10,000
Nourse road, western section	2,000
Klinge road, middle section	4,000
Eighteenth street extended, middle section	5,000
North Capitol street extended, middle section	10,000
First street west extended, middle section	5,000
Columbia road, middle section.....	7,500
Sherman avenue, middle section	15,000
Howard street, middle section	7,700
Linden street, middle section.....	8,200
Jefferson street, eastern section.....	
Jackson street, eastern section grade	4,000
Washington street, eastern section.....	
Total	78,400

DIVISION OF ESTIMATES.

Eastern section	14,000
Middle section	62,400
Western section.....	2,000
Total	78,400

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Maintenance of county roads and suburban streets.

Resurfacing canal road, western section	\$10,000
Resurfacing Fourteenth street from Boundary to Whitney avenue, middle section	6,000
Widening and improving the Naylor road, eastern section	3,500
General repairs and patrol system	35,000
Total	54,500

DIVISION OF ESTIMATES.

Eastern section	3,500
Middle section	6,000
Western section	10,000
General	35,000
Total	54,500

RECAPITULATION.

Total for construction and maintenance:	
Eastern section	17,500
Middle section	68,400
Western section	12,000
Total	97,900

APPENDIX 20.

SPECIFICATIONS FOR STANDARD PAVEMENTS.

STREET-CONSTRUCTION MATERIAL.

ASPHALT PAVING BLOCKS.

(1) The size of the blocks will be 4 by 5 by 12 inches, and a variation of one-fourth of an inch from these dimensions will be sufficient grounds for rejecting any block.

(2) The blocks will be composed of paving cement 8 to 12 per cent., crushed limestone 92 to 88 per cent.

(3) The paving cement will be an admixture of refined Trinidad asphalt with the residual oil obtained from the distillation of petroleum. No product of the distillation of coal-tar will be permitted. The right is reserved to inspect the manufacture of the blocks at any time.

(4.) All bids must be accompanied by a specimen block of the size and quality described in these specifications, labeled with the name of the bidder and the locality of the factory. Bids not accompanied by specimen blocks will not be considered.

GRANITE PAVING BLOCKS.

(5) The blocks may be of any syenite or granite, equal in hardness to what is known as Quincy granite, but must be of uniform grain and texture, without lamination or stratification, and free from excess of mica or feldspar; stone that will take a smooth polish under traffic will not be accepted. Soft or weather-worn stones obtained from the surface of the quarry will not be accepted.

(6) The blocks must be of the following dimensions, viz: In length, not more than 8 nor less than 6 inches; in width, not more than 4 nor

less than 3 inches; in depth, not more than 6 nor less than $5\frac{1}{2}$ inches. The size preferred is 7 inches long, 4 inches wide, and 6 inches deep. They must be sufficiently dressed to present rectangular faces, with straight edges on top, bottom, and sides, and all blocks whose faces vary more than half an inch from a rectangular shape will be rejected. The sides and ends of the blocks must be so dressed that they will make close-fitting joints, and any block which has a greater projection than half an inch will be rejected.

CONDITIONS OF DELIVERY.

(7) Blocks shipped by water must be delivered within one of the property yards of the District of Columbia, which are situated at the foot of Sixth street and of G street, respectively; blocks shipped by the Baltimore and Potomac Railway will be delivered on Reservation 17, or on the reservation at intersection of Maryland and Virginia avenues, between Seventh and Ninth streets; blocks shipped by the Baltimore and Ohio Railroad may be delivered on the triangular space between G and H streets, Delaware avenue and First street. In every case the cost of unloading the blocks and placing them in the property yards or reservations ready for inspection must be paid by the contractor.

The blocks will be carefully inspected upon delivery by the Engineer Commissioner or his agents, and all blocks which do not conform to the foregoing specifications in size or quality must be immediately removed by the contractor at his own expense. The contractor must also furnish at his own expense such laborers as may be deemed necessary by the Engineer Commissioner to assist his agents in inspecting and culling the blocks.

(8) All bids must be accompanied by a specimen block of the size and quality described in these specifications, labeled with the name of the bidder and the locality of the quarry. Bids not accompanied by specimen blocks will not be accepted.

Specifications for laying granite-block pavement.

(1) The granite-block pavement will be laid on a foundation of gravel and sand, with filling of hot paving cement.

(2) The granite blocks will be furnished by the District, on Maryland avenue between Seventh and Ninth streets southwest, and must be hauled thence to the street at the contractor's expense. Ten per cent. of the cost of these blocks will be retained as part of the guaranty fund specified in paragraph 7 of the general conditions hereto attached.

(3) The space over which the pavement is to be laid will be excavated to the depth of $12\frac{1}{2}$ inches below the surface of the proposed pavement when completed. Any objectionable or unsuitable material below the bed will be removed and the space filled with clean gravel or sand. Care must be taken in excavating to preserve the proper crown. All holes and inequalities to be filled with sand or gravel, and such filling to be thoroughly compacted by rolling or ramming.

(4) Upon this foundation is to be laid a bed of fine bank gravel, 4 inches in depth when compressed, screened from all pebbles measuring more than $1\frac{1}{2}$ inches in their largest dimensions, and thoroughly rammed. Upon this will be laid a bed of fine, sharp sand, washed and dried, 3 inches in thickness, to serve as a bed for the blocks, which will be laid directly upon and imbedded in it, with close joints. The stone blocks are to be laid at right angles with the line of the street; each course to

be of blocks of a uniform width and depth, and so laid that all longitudinal joints shall be broken by a lap of at least 2 inches. When thus laid, the blocks will be immediately covered with clean, fine hot gravel, in proper quantities, raked until all the joints become filled therewith, and the blocks will then be carefully rammed to a firm, unyielding bed, with uniform surface and with proper grade. There will then be poured into the joints, at a temperature of 300° Fahrenheit, paving cement of proper consistency, to be obtained by the direct distillation of coal tar. The cement required is that ordinarily numbered 6 at the manufactory. It will be poured into the joints of the pavement until the sand beneath and the gravel between the blocks will absorb no more and the joints are filled flush with the upper surface of the pavement. Dry, hot gravel, not larger than three-fourths of an inch in any dimension, will then be poured along the joints and will be consolidated by tapping with a light rammer. Not less than 3 gallons of paving cement to each square yard of pavement will be required. This quantity must be brought upon the ground, upon the line of the work, and whatever may remain after the completion of the work will be the property of the District of Columbia, and will be hauled to the Sixth street property yard at the expense of the contractors. Any wastage of paving cement by pouring over the surface of the pavement instead of between the blocks will be estimated and deducted from the amount reported to have been used, and any such wastage of paving cement remaining upon the surface of the pavement must be covered with a sufficient quantity of fine dry gravel to absorb it.

Specifications for laying street pavements.

STANDARD ASPHALT PAVEMENT.

(1) Standard asphalt pavement will be 2½ inches in thickness when compacted, with a base of hydraulic cement concrete 6 inches in depth,

(2) The space over which the pavement is to be laid will be excavated to the depth of 9 inches below the top surface of the pavement when completed. Any objectionable or unsuitable material below the bed will be removed and the space filled with clean gravel or sand well rammed. The bed will then be trimmed so as to be parallel to the surface of the new pavement when completed, and the entire road-bed will be thoroughly rolled with a heavy steam-roller.

Upon this foundation will be laid a bed of hydraulic cement concrete, 6 inches in thickness, to be made as follows:

One measure of cement, equal to the best quality of fresh-burned hydraulic American cement, and two of clean, sharp, washed sand, free from clay, will be thoroughly mixed dry and made into a mortar with the least possible amount of water; broken stone or hard brick of acceptable dimensions and character, thoroughly cleaned from dust and dirt, drenched with water, but containing no loose water in the heap, will be incorporated immediately with the mortar in such quantities as will give a surplus of mortar when rammed. This proportion, when ascertained, will be regulated by measure. Each batch of concrete will be thoroughly mixed, the mixing being continued on the board until each piece of stone or brick is completely coated with mortar; it will then be spread and at once thoroughly compacted by ramming until free mortar appears upon the surface. The whole operation of mixing and laying each batch will be performed as expeditiously as possible, with the use of a sufficient number of skilled men. No gravel will be used

in the concrete, but only angular fragments of stone or brick, having rough faces obtained by fracture, and measuring not more than $1\frac{1}{2}$ inches in their largest dimensions. The upper surface of the base will be made parallel with the crown of the pavement to be laid, and will be suitably protected from the action of the sun and wind until set.

(3) The wearing surface will be composed of: (1) refined Trinidad or other acceptable asphaltum; (2) heavy petroleum; (3) fine sand, containing not more than 5 per cent. of hydrosilicate of alumina; (4) fine powder of carbonate of lime.

(4) The asphaltum must be refined and brought to a uniform standard of purity and gravity.

(5) The petroleum must be freed from all impurities and brought to a specific gravity of from 18° to 22° Beaumé, and a fire test of 250° Fahrenheit.

(6) They will be mixed in the following proportions by weight: With Trinidad asphalt—asphalt, 100 parts; petroleum, from 14 to 17 parts.

(7) The proportion of mixture for other asphalts will be determined by their chemical composition.

(8) The asphaltic cement, made in the manner above described, will be mixed with other materials in the following proportions by weight, viz, asphaltic cement, from 15 to 18; sand, from 70 to 65; pulverized carbonate of lime, from 15 to 17.

(9) The proportion of materials used will depend upon their character and the traffic on the street, and will be determined by the Engineer Commissioner. If the proportions of the mixture are varied in any manner from those specified the mixture will be condemned; its use will not be permitted; and, if already placed on the street, it will be removed and replaced by proper material at the expense of the contractor.

(10) The sand and asphaltic cement will be heated separately to about 300° Fahrenheit. The pulverized carbonate of lime, while cold, will be mixed with the hot sand in the required proportions, and then mixed with the asphaltic cement, at the required temperature and in the proper proportion, in a suitable apparatus, so as to effect a thoroughly homogeneous mixture.

(11) The pavement mixture, prepared in the manner thus indicated, will be laid on the foundation as follows: It will be brought to the ground in carts at a temperature of about 250° Fahrenheit, and carefully spread, by means of hot iron rakes, in such manner as to give a uniform and regular surface and to such depth as, after having received its ultimate compression of 40 per cent., to have a thickness of $2\frac{1}{2}$ inches. This depth will be tested by means of gauges furnished by the Engineer Commissioner. The surface will then be compacted by tamping-irons and hand-rollers, after which a small amount of dry hydraulic cement will be swept over it, and it will then be thoroughly compacted by a steam-roller weighing not less than 250 pounds to the inch run, the rolling being continued for not less than five hours for every 1,000 yards of surface.

(12) All materials used, as well as the plant and methods of manufacture, will be subject to the inspection and approval of the Engineer Commissioner.

(13) The degree of fineness both of sand and powdered limestone will be determined by testing with screens, as follows: The powdered carbonate of lime will be of such degree of fineness that 16 per cent. by weight shall be an impalpable powder of limestone, and the whole of it shall pass a No. 26 screen. The sand will be of such size that none

of it will pass a No. 80 screen and the whole of it shall pass a No. 20 screen.

(14) In order to make the gutters impervious to water, a width of 12 inches next the curb will be coated with hot, pure asphalt smoothed with hot smoothing irons.

(15) The law requires that the pavement to be laid shall be in no respect inferior to the best of those now in service.

Coal-tar distillate and asphalt pavement.

(1) Coal tar distillate and asphalt pavement will be $1\frac{1}{2}$ inches in thickness when compacted, with a bituminous base and binder $4\frac{1}{2}$ inches in depth.

(2) The space over which the pavement is to be laid will be excavated to the depth of 6 inches below the top surface of the pavement when completed. Any objectionable or unsuitable material below the bed will be removed and the space filled with clean gravel or sand well rammed. The bed will then be trimmed so as to be exactly parallel to the surface of the new pavement when completed, and the entire road-bed will be thoroughly rolled with a heavy steam-roller.

Upon this foundation will be laid the base and binder, $4\frac{1}{2}$ inches in thickness, in the following manner:

(3) The base will be composed of clean, broken stone that will pass through a 3-inch ring, well rammed and rolled with a steam-roller to a depth of 4 inches, and thoroughly coated with hot paving cement composed of No. 4 coal-tar distillate in the proportion of about 1 gallon to the square yard of pavement.

(4) The second or binder course will be composed of clean, broken stone, thoroughly screened, not exceeding $1\frac{1}{4}$ inches in the largest dimensions, and No. 4 coal-tar distillate. The stone will be heated by passing through revolving heaters, and thoroughly mixed by machinery with the distillate in the proportion of 1 gallon of distillate to 1 cubic foot of stone.

(5) The binder will be hauled to the work, spread upon the base course at least 2 inches thick, and immediately rammed and rolled with hand and heavy steam rollers while in a hot and plastic condition.

(6) The wearing surface will be $1\frac{1}{2}$ inches thick when compacted, made of paving cement, composed of 25 per cent. of asphalt and 75 per cent. of coal-tar distillate, mixed with other materials, as follows: Clean, sharp sand will be mixed with pulverized stone of such dimensions as to pass through a $\frac{1}{4}$ -inch screen, in the proportion of two to one. To 21 cubic feet of the above named mixture will be added 1 peck of dry hydraulic cement, 1 quart of flour of sulphur, and 2 quarts of air-slaked lime. To this mixture will be added 320 pounds of paving cement to compose the wearing surface.

(7) The material will be heated to about 250° Fahrenheit, the paving cement in kettles, the sand, stone, etc., in revolving heaters. They will be thoroughly mixed by approved machinery, and the mixture carried upon the work, where it will be spread upon the binder course 2 inches thick with hot iron rakes and other suitable appliances and immediately compacted with tamping irons, hand and steam rollers in its hot and plastic state. The surface will be finished with a dusting of dry hydraulic cement rolled in.

(8) The pavement so constructed must be a solid mass 6 inches thick, and will be thoroughly rolled and cross rolled until it has become hard and solid.

(9) The relative proportions of the component materials will be changed upon the order of the Engineer Commissioner, as occasion shall require. The pavement must be equal in every respect to that laid on K street between Ninth and Eighteenth streets northwest.

Asphalt block pavement.

(1) The size of the blocks will be 4 by 5 by 12 inches, and a variation of one-fourth of an inch from these dimensions will be sufficient grounds for rejecting any block.

(2) The blocks will be composed of paving cement 8 to 12, crushed limestone 92 to 88.

The paving cement will be made from refined Trinidad or other acceptable asphaltum and heavy petroleum. The petroleum must be freed from all impurities and brought to a specific gravity of from 18° to 22° Beaumé, and a fire test of 250° Fahrenheit. The right is reserved to inspect the manufacture of the blocks at any time.

All bids must be accompanied by a specimen block of the size and quality described in these specifications, labeled with the name of the bidder and the locality of the factory; bids not accompanied by specimen blocks will not be accepted. The blocks will be tested on specific gravity and tensile and crushed strength, and all blocks furnished will be subject to test and approval.

(3) The space over which the pavement is to be laid will be excavated to the depth of 12 inches below the top line of the proposed pavement when fully rammed. Any objectionable or unsuitable material below the bed will be removed and the space filled with clean gravel or sand. Care must be taken in excavating to preserve the proper crown. All holes and inequalities will be filled with sand or gravel, such filling to be thoroughly compacted by rolling or ramming.

(4) Upon this foundation, as above, is to be laid a bed of fine bank gravel, to be screened from all pebbles measuring more than 1½ inches in their largest dimensions, 5 inches thick when compacted by rolling and ramming. Upon this will be laid a bed of fine, sharp sand, washed and dried, 2 inches in thickness, to serve as a bed for the blocks, which will be laid directly upon and imbedded in it with close joints. Special care will be observed to make the surface of this bed of sand exactly parallel to the surface of the pavement when complete. The blocks must be laid by the pavers standing or kneeling upon the blocks already laid, and not upon the bed of sand.

(5) The blocks are to be laid at right angles with the line of the street, with such crown as the Engineer Commissioner may direct, each course to be of blocks of a uniform width and depth, and so laid that all longitudinal joints shall be broken by a lap of at least 4 inches. Each course of blocks will be driven against the course preceding it by a heavy maul, in order to make the lateral joints as tight as possible, and the longitudinal points will be closed by pressing each corner in the direction of its length by a lever. When thus laid, the blocks will be immediately covered with clean, fine sand, entirely free from any loam or earthy matter, perfectly dry, and screened through a sieve or screen having not less than 20 meshes to the inch. The blocks will then be carefully rammed by placing a plank over several courses and ramming the plank with a heavy rammer. The ramming will be continued until the blocks reach a firm, unyielding bed and present a uniform surface, with proper grade and crown. Any lack of uniformity in the surface must be corrected by taking up and relaying the blocks. When the

ramming is complete a sufficient amount of fine, dry sand, as above described, will be spread over the surface and swept or raked into the joints.

Laying granite blocks adjacent to curb and tracks.

(1) Where the pavement is laid adjacent to the tracks of a street railroad one row of selected granite paving blocks, which will be furnished by the District of Columbia, at the property yard, and must be hauled to street at the contractor's expense, will be laid next to the track, alternating as headers and stretchers toothing into the pavement, with a bituminous concrete foundation extending to the depth of the bottom of the cross-ties.

(2) The base of this foundation will be composed of clean, broken stone that will pass through a 2-inch ring, well rammed, and thoroughly coated with paving cement composed of No. 4 coal-tar distillate, in the proportion of about 1 gallon to each square yard of base.

(3) Upon this base will be laid a second or binder course, which will be composed of clean, broken stone, thoroughly screened, not exceeding $1\frac{1}{4}$ inches in the largest dimension, and No. 4 coal-tar distillate.

(4) The stone will be heated by passing through revolving heaters, and thoroughly mixed by machinery with the distillate, in the proportion of 1 gallon of distillate to 1 cubic foot of stone.

(5) The binder will be hauled to the line of work, spread upon the base in a layer not less than 1 inch in thickness.

(6) The blocks will be immediately laid and imbedded in the binder while it is still in a hot and plastic condition.

(7) The top of the blocks will be even with the surface of the tread of the rail, which shall conform to the grade of the street.

(8) The blocks will be laid before the wearing surface is laid upon the carriage way, and carefully rammed to a firm bed. Care will be taken to fit them well up against the stringers of the railroad.

(9) The space back of the blocks will be filled to the surface of the base for the carriage-way pavement, with the binder course well rammed.

(10) Immediately after the wearing surface shall have been laid, clean, fine, hot gravel, not larger than three-fourths of an inch in dimensions, will be poured into the joints of the blocks until they become nearly filled.

(11) There will then be poured into the joints, at a temperature of 300° Fahrenheit, paving cement made of No. 6 coal-tar distillate, until the joints are completely filled flush with the surface of the pavement. Additional fine, hot gravel will then be poured along the joints, and will be consolidated by tapping with a light hammer. If found necessary, additional paving cement will be poured between the blocks until the joints are thoroughly filled.

(12) If considered advisable, a strip of granite block pavement will be laid in the place of the gutter, of such width as may be prescribed, and in accordance with the following specifications: The blocks will be furnished by the District, at the property yards, and must be hauled to the street at the contractor's expense. The pavement will be cut out for the necessary width, and the subsoil excavated to the depth of $12\frac{1}{2}$ inches below the surface of the pavement when fully rammed. Any spongy or vegetable material in the bed thus prepared will be removed, and the space filled with clean gravel or sand to a proper level, such filling to be thoroughly compacted by ramming.

(13) Upon this foundation is to be laid a bed of fine bank gravel, 4 inches in depth when compressed, screened from all pebbles measuring more than $1\frac{1}{2}$ inches in their largest dimensions, and thoroughly rammed. Upon this will be laid a bed of fine, sharp sand, washed and dried, 3 inches in thickness, to serve as a bed for the blocks, which will be laid directly upon and embedded in it, with close joints. The stone blocks are to be laid at right angles with the line of the street; each course to be of blocks of a uniform width and depth, and so laid that all longitudinal joints shall be broken by a lap of at least 2 inches. The edge next the carriage-way will consist of alternate headers and stretchers tothing into the pavement. When thus laid, the blocks will be immediately covered with clean, fine, hot gravel, in proper quantities, raked until all the joints become filled therewith, and the blocks will then be carefully rammed to a firm, unyielding bed, with uniform surface and with proper grade. There will then be poured into the joints, at a temperature of 300° Fahrenheit, paving cement of proper consistency, to be obtained by the direct distillation of coal-tar. The cement required is ordinarily numbered 6 at the manufactory. It will be poured into the joints of the pavement until the sand beneath and the gravel between the blocks will absorb no more and the joints are filled flush with the upper surface of the pavement. Dry, hot gravel not larger than three-fourths of an inch in any dimension will then be poured along the joints, and will be consolidated by tapping with a light rammer. Not less than 3 gallons of paving cement to each square yard of pavement will be required; this quantity must be brought upon the ground, upon the line of the work, and whatever may remain after the completion of the work will be the property of the District of Columbia, and will be hauled to the Sixth street property yard, at the expense of the contractors. Any wastage of paving cement by pouring over the surface of the pavement instead of between the blocks will be estimated and deducted from the amount reported to have been used, and any such wastage of paving cement remaining upon the surface of the pavement must be covered with a sufficient quantity of fine dry gravel to absorb it.

(14) The Engineer Commissioner may substitute, in his discretion, such other materials as he may deem best for granite blocks, for which an equitable price will be allowed.

(15) Bidders are at liberty to submit for consideration proposals and specifications for any special or patented pavement which may be deemed suitable for roadways.

Specifications for laying macadam pavement.

(1) Macadam pavements will be $12\frac{1}{2}$ inches thick when fully compressed, and will be laid in three courses, the two lower courses each being 6 inches thick when compressed and the top course one-half inch.

(2) The space over which the pavement is to be laid will be excavated to the depth of $12\frac{1}{2}$ inches below the top line of the proposed new pavement when fully compressed. Should there be any spongy material or vegetable matter in the bed thus prepared, all such material will be removed and the space filled with clean gravel or sand. Care must be taken in excavating to preserve the proper crown parallel to the surface of the street when completed; all holes and inequalities to be filled to a proper level with sand or gravel only, such filling to be well and faithfully compacted by rolling or ramming, and the entire road-bed will be thoroughly compacted by rolling and ramming so as to present a smooth and regular surface.

(3) On this bed the metal for the first course will be spread in a uniform layer of such thickness as to give a depth of 6 inches when thoroughly compacted. This layer will then be compacted by rolling, and ramming in such places as the roller cannot reach; the roller will either be a steam-roller or horse-roller, its weight being not less than 5,000 pounds, and its width such that the weight per inch of run will be not less than 125 pounds. The District will furnish, if desired, a suitable roller, weighing about 10,500 pounds, made of iron with grooves, and requiring five or six horses for its proper use according to grade. The rolling will be continued until the stone cease to sink under the roller or to creep in front of it; the amount of rolling will be not less than ten hours to each 1,000 yards of surface.

(4) The second course of metal will be spread on the first course in a uniform layer of the same depth as before, and after being thoroughly wet, either by hose or a sprinkling cart, will be rolled and rammed in precisely the same manner and to the same extent as the first course.

(5) The size of metal in the first and second courses will be such that it will pass through a ring $2\frac{1}{2}$ inches in diameter, *i. e.*, the largest dimension of any stone must not exceed $2\frac{1}{2}$ inches. Any stone larger than this will be absolutely rejected, and must be either removed from the street or rebroken to proper size by the contractor. The material for the top course will be small pebbles thoroughly screened from clay and earthy matter, and varying in size from one-eighth to three-fourths of an inch in their largest dimensions, or it may be composed of the finer particles of stone obtained by screening the stone for the lower courses. These particles of stone will be of the same size as the pebbles above mentioned. Stone dust will not be used for a top course.

(6) The material for the top course will be spread upon the second course in a uniform layer 1 inch in thickness, and, after being thoroughly wet by means of a hose or sprinkling cart, will be rolled and rammed in the same manner and to the same extent as the first and second courses.

(7) The stone for the first and second courses must be of a hard and compact texture and uniform grain. Blue rock (gneiss), trap, granite, flint (quartz), and the harder varieties of limestone will be accepted. Bidders will submit with their bids samples of the stone which they propose to furnish, and all stone which does not equal the sample in quality and size will be rejected. The stone must have on all sides a rough surface obtained by fracture. Water-worn pebbles and broken cobblestones will not be accepted. The stone preferred is the harder variety of compact gneiss found on certain portions of Rock Creek, Piney Branch, Broad Branch, and other streams north of the boundary. Disintegrated and weather-worn stones from the surface of the quarry will not be accepted. If desired, the stone can be obtained from the shafts of the new aqueduct at Champlain avenue, Rock Creek, and Foundry Branch. It will be furnished to the contractor at those points free of charge, and already broken to a size containing about 1 cubic foot.

Telford-macadam roadway.

(1) Material. The stone for the foundation of the pavement shall be sound, hard, and durable quarry stone, each from 6 to 8 inches in depth, from 3 to 6 inches in width, and from 6 to 14 inches in length, and of a sufficiently uniform size to be acceptable.

(2) The road-bed shall be prepared as prescribed for macadam pavement, except that the bed shall be 14 inches below the surface of the finished roadway.

(3) The foundation stones shall be laid by hand in the form of a close firm pavement. They shall be set on their broadest edges, lengthwise across the road. All the projections and irregularities of the upper part of the pavement shall then be broken off with a hammer. The spalls or chips together with broken stone or screened gravel shall then be spread on the base in sufficient quantity to fill all irregularities and present an even surface, with the required thickness. The base shall then be thoroughly rolled. The stone foundation must be in a compact and satisfactory condition in every respect at the time of the spreading of the broken stone.

(4) On this shall be spread a layer of macadam to such a depth as will make a thickness of 5 inches when thoroughly compacted. This layer shall be composed of material of the same size and quality as is prescribed for macadam roadways, and shall be rolled in the same manner and for the same length of time.

(5) The top layer shall be composed of the same materials, shall be laid in the same manner and rolled in the same way and for the same length of time as is prescribed for macadam roadways.

(6) The roadway when completed shall be at each point of such construction and at least of such depth as required by the specifications, and of such crown and form of gutter as shall be directed, and in any case the thickness of the pavement is to be determined on a line at right angles to the grade and crown.

Conditions.

(1) The District will furnish the materials for the Telford base at Boundary and Fifteenth streets northeast. The stone must be selected and hauled by the contractor. For the portion of the road near the District line the contractor may furnish the stone for the Telford base, should he so elect.

(2) The metal for macadam must be clean, and free from dust, spalls, etc.

Bidders are requested to submit proposals for constructing the Telford-macadam roadway, as well as for the macadam roadway.

APPENDIX No. 21.

SPECIFICATIONS FOR SEWERS.

Trenches.

(1) The ground will be excavated in open trenches to not more than the necessary width and depth, that portion formed for the invert of the sewer to be excavated to conform to the external form and dimensions of the same, should the nature of the ground so allow. If the soil be unsuitable for a foundation it will be removed to such depth and width and in such manner as the Engineer Commissioner may direct, and other material deposited in its place, which will be paid for as extra work.

(2) All irregularities in the bottom or sides of the trench below the center of the sewer will be filled to the required form with hydraulic cement concrete, made as herein specified, at the expense of the contractor.

(3) Bracing and shoring will be used when necessary. The filling of the trench and removal of timber will be done in such manner as to prevent the slipping or caving of the sides as the work progresses. If ordered to be left in the trench, the bracing and shoring so left will be measured and paid for at a price to be determined by the Engineer Commissioner.

(4) Should the exigencies of the work so require, it will be carried on without intermission upon the order of the Engineer Commissioner.

(5) The excavations will be kept free from water during the construction of the work; no concrete or other work will be laid in water, and no allowance made for pumping or otherwise removing the water; all slides or caving of the sides of the trenches or cuts will be taken out and back-filled.

(6) The back-filling must be brought up evenly to the top of the trench in layers not exceeding 6 inches in depth, and thoroughly rammed.

When desirable, for the better compacting of the filling, water will be used under the direction of the inspector.

The contractor will be responsible for all after-settlement over the line of the trench, as hereinafter provided.

(7) The surface of the street or sidewalk must be left in as good condition as before the commencement of the work, suitable material being reserved for this purpose.

(8) The contractor will replace all pavements disturbed excepting sheet pavements, which will be relaid by the District. If, however, such pavements should be injured by the contractors outside the limits prescribed for the trenches, the cost of restoring such excess will be charged against the contractor and deducted from any amounts found due, and he will be required at his own expense to maintain the ground surface of the pavement over the line of trench with the best material available from the excavation, until such time as the pavement is relaid. The cost of subsequent repairs of all pavements (whether relaid in the first instance by the District or by the contractor), or of any other work made necessary within the period for which this work is guaranteed by after-settlement in the filling of the trenches, will be charged against the 10 per cent. retained and invested, as provided in paragraph 7 of the general stipulations hereto attached.

(9) The material from the trenches and that used in the construction of the work will be so deposited as not to endanger the work or unnecessarily obstruct public travel, and so that free access may be had at all times to all fire plugs and water gates in the vicinity of the work. The surplus earth, as hereinafter indicated, will be the property of the contractor, and must be hauled away and disposed of by him.

(10) The cost of removing the surplus earth will be included in the price paid for the sewer.

Sewers.

(1) The sewers are to be constructed in strict conformity with the drawings furnished and the lines and levels given by the duly authorized assistant and the directions given from time to time by the Engineer Commissioner or his agents. The work is subject to such modifications as may be necessary during its progress; and in no case will any work in excess of the plan and specifications be paid for unless ordered in writing by the Engineer Commissioner.

(2) All railroads, water, sewer, and gas pipes will be properly supported and protected during the construction of the work under or near

them, so as not to interfere with or delay their use; all at the expense of the contractor.

(3) The connections with intercepted sewers and catch-basins will be made according to plans and directions, and the cost of said connections will be included in the price per foot for new sewers. The connections with new basins will be paid for at a separate price; the connection with sewers will generally be made with curves having a radius of not less than 30 feet.

The sewers in Rhode Island avenue, Fifth and Sixth streets northwest, East Capitol street, D street southwest, and Pennsylvania avenue southeast will be laid to take the places of sewers now laid in said streets, which sewers will be abandoned.

On these streets the new sewers will be laid between the old sewers and the curbs, excepting the sewers on Pennsylvania avenue, which will be laid between the old sewers and the buildings.

All existing house laterals must be properly connected with the new sewers, for which work a separate price will be paid. All pipe necessary for such connection will be furnished by the District at the property yard.

Whenever it is necessary to extend or relay any part of the house laterals to insure a proper connection, they must be laid and thoroughly bedded in concrete, particularly where said laterals cross the old sewers. The old sewers must be closed at each manhole, and wherever a house lateral crosses it, with brick and cement, or concrete, and the manholes filled with earth, thoroughly rammed, to the surface of the street or sidewalk. The manhole frames and covers are to be removed from the old sewers and used on the new sewers.

Brick-work.

(1) The best quality of whole new bricks, burned hard entirely through, free from injurious cracks, with true even faces, and with a crushing strength of not less than 5,000 pounds per square inch, will be used, and must be thoroughly wetted immediately before laying. Every brick is required to be laid in full mortar joints, on bottom, sides, and ends, which for each brick is to be performed by one operation. In no case is the joint to be made by working in mortar after the brick has been laid. Every second course will be laid with a line, and joints will not exceed three eighths of an inch. The brick-work of the arches shall be properly bonded and keyed as directed by the Engineer Commissioner.

(2) Terra-cotta junction blocks will be built into the arch of the brick sewers, and Y branches laid in the pipe sewers at such places as are shown on the plan, or are indicated by the Engineer Commissioner. These will be furnished the contractor free of cost, and are to be built into the sewers, and the ends projecting from the concrete foundation closed with brick and cement by and at the expense of the contractor.

Manholes.

(1) Brick manholes will be constructed in the sewers at intervals of 150 to 200 feet. They are to be of form and dimensions shown on the drawings.

Manholes are to be fitted with cast-iron frames and covers, in dimensions, weight, and quality similar to those now used, and the drawings of which are on file in the office of the Engineer Commissioner.

(2) The iron is to be sound, free from imperfections, and thoroughly cleaned. Each manhole will be furnished with steps of wrought iron, three-quarter inch in diameter, built into the brick-work as shown on drawings, conveniently arranged for access to sewer.

(3) Lateral-sewer and receiving basin connections will be built into the manholes whenever required.

Receiving-basins.

(1) Receiving-basins will be built wherever shown on the plans or ordered by the Engineer Commissioner. They will conform to the drawings, will be built with care, and will be made water-tight by plastering the interior with neat hydraulic cement one-half inch in thickness.

(2) The tops of the basins will be covered with granite or blue-stone heads, set level with the sidewalk; the stones composing the tops will be rebated to receive a cast iron cover similar to those now in use.

(3) Connections of basins with the sewers will be made with 12-inch or 15-inch pipes of terra cotta, laid in hydraulic-cement concrete, as required for the sewer pipes.

(4) An opening will be left in the wall opposite the sewer connection for the disposal of liquid sewage in cleaning the trap. This will be closed by an iron covering, to be furnished by the District. This covering will be put in place and securely fastened by the contractor.

Mortar.

(1) Mortar, wherever used in this work, will be composed of cement and sand, in the proportion of 300 pounds of cement and 2 barrels of loose sand, *thoroughly mixed* dry, and a sufficient quantity of water afterwards added to form a rather stiff paste; it will be used within an hour after mixing, and not at all if once set.

(2) Cement shall be delivered in barrels, and be of quality equal in every respect to the best brands of Potomac and Rosendale cements, which have been in use on the public works of the District of Columbia in past years, and must be satisfactory in all respects to the Engineer Commissioner, and pass such tests as he may prescribe.

(3) Sand used shall be clean, sharp, free from loam, vegetable matter, or other dirt.

(4) Water used shall be fresh and clean, free from earth, dirt, or sewage.

(5) Tight mortar boxes shall be provided by the contractor, and no mortar shall be made excepting in such boxes.

(6) The proportions given are intended to form a mortar in which every particle of sand shall be enveloped by the cement, and this result must be attained to the satisfaction of the Engineer Commissioner, and under his direction.

(7) The thorough mixing and incorporation of all materials will be insisted upon, preferably by machine labor; but if done by hand labor the dry cement and sand will be turned over and mixed with shovels by skilled workmen not less than six times before the water is added. After adding the water the paste will again be turned over and mixed with shovels by skilled workmen not less than three times before it is used.

Concrete.

(1) Concrete will be composed of mortar proportioned and mixed as before described, to which will be added broken stone in such proportion that the resultant mass will contain for every 300 pounds of cement 2 barrels of loose dry sand and 5 barrels of broken stone or hard brick.

(2) The broken stone or brick will be thoroughly cleaned from all dirt, and will be screened whenever ordered by the Engineer Commissioner or his agents. It will be broken to a size not greater than 2 inches in any direction.

(3) The stone or brick will be added immediately after mixing the mortar, being first completely drenched with water, but containing no loose water in the heap.

The whole mass shall be thoroughly turned over and mixed until every particle of broken stone is completely covered with mortar, using only sufficient water to insure the proper incorporation of the ingredients.

(4) The contractors shall furnish the inspectors with proper means and facilities for weighing the cement in barrels, and the barrels after being emptied, and for measuring the sand, broken bricks, and broken stone.

(5) All quantities of work and material to be paid for will be measured and determined by the Engineer Commissioner and his assistants, according to the specifications and the plans and working lines which may be given.

(6) All material furnished and all work done which, in the opinion of the Engineer Commissioner, shall not be in accordance with these specifications, shall be removed within twenty-four hours after written notice from the Engineer Commissioner, by and at the expense of the contractor, or, in case of his failure to do so, it will be removed by the Engineer Commissioner, and the cost will be charged to the contractor and deducted from the amount due or which may become due the contractor.

(7) Material to be furnished by the District (consisting of sewer pipe, branches, and junction blocks) will be delivered to the contractor on the wharf or at one of the property-yards of the District, and will be hauled to the work by the contractor. It will be considered as a cash payment in addition to the contract rates, and 10 per cent. of its value will be retained, as provided by law. (See paragraph 5 of the general stipulations hereto appended.)

(8) The contractor will be required to refill trenches, remove surplus material or supplies, and restore the streets to their original condition with all possible promptness; also to maintain suitable bridges over trenches at street crossings in such manner as to accommodate travel on foot or by vehicle, all to the satisfaction of the Engineer Commissioner and as he shall direct. All lights necessary for properly lighting the trenches or other obstructions to travel must be maintained at the expense and risk of the contractor.

APPENDIX 22.

LIST OF INSPECTORS.

List of inspectors and sub-inspectors.

No.	Name.	No. of days.	Compensation.		Amount paid.	Under contract.	Paid from appropriation.
			Per diem.	Per annum.			
1	E. Y. Beggs.....	25	\$5.00	.....	\$130.00	727.....	Work on sundry streets.
	Do.....	22	6.00	.....	132.00	726.....	Do.
2	W. H. Calhoun.....	264	4.50	.....	1,188.00	701, 724, 726.....	Work on sundry streets and material for permit-work.
3	William Brown.....	18	4.00	.....	72.00	726, 736.....	Work on sundry streets.
	Do.....	122	4.50	.....	549.00	726, 736.....	Do.
4	T. McMahon.....	103	4.00	.....	412.00	727.....	Do.
5	F. B. Schaeffer.....	71	4.00	.....	284.00	727.....	Do.
6	Wm. Donaldson.....	170	4.00	.....	680.00	727, 736.....	Do.
7	J. Powell.....	77	4.00	.....	308.00	727, 762.....	Do.
8	O. V. Mitchell.....	103	4.00	.....	412.00	721, 727.....	Do.
9	J. J. Power.....	104	4.00	.....	416.00	726.....	Do.
10	A. Jordan.....	38	4.00	.....	152.00	736.....	Do.
11	J. H. Newman.....	10	4.00	.....	40.00	725.....	Do.
12	Wm. Welch.....	106	4.00	.....	148.00	725, 737, 726, 729	Do.
13	V. Newton.....	37	4.00	.....	148.00	752, 759.....	Opening and extending suburban streets.
14	O. Brown.....	100	2.00	.....	200.00	752, 759.....	Do.
15	C. T. Little.....	90	2.00	.....	180.00	752, 759.....	Do.
16	J. N. Oliver.....	26	2.00	.....	52.00	752, 759.....	Do.
17	H. T. Wallace.....	9	2.00	.....	18.00	752, 759.....	Do.
18	Wm. Bauman.....	139	5.00	.....	695.00	752, 759, 769, 763	Do.
19	B. F. Mackall.....	69	4.00	.....	276.00	769, 763.....	Do.
20	D. Thomas.....	128	4.00	.....	512.00	752.....	Do.
21	E. P. Hickey.....	77	3.50	.....	269.50	759.....	Do.
22	W. H. Schurar.....	7	3.00	.....	21.00	759.....	Do.
23	H. F. Brandebury.....	76	5.00	.....	380.00	676.....	Repairs to concrete pavements.
24	Wm. Welch.....	10	3.50	.....	35.00	676.....	Do.
25	A. C. Paul.....	165	5.00	.....	825.00	676.....	Do.
26	P. Reilly.....	52	5.00	.....	260.00	676.....	Do.
	Do.....	12	4.00	.....	48.00	676.....	Do.
27	T. McMahon.....	130	3.00	.....	390.00	676.....	Do.
28	D. Mullin.....	22	3.00	.....	66.00	676.....	Do.
29	E. Harpur.....	.....	.....	\$1,200	1,157.61	677.....	Cleaning streets, avenues and alleys.
30	M. J. Foley.....	46	2.50	.....	115.00	677.....	Do.
	Do.....	203	3.00	.....	609.00	677.....	Do.
	Do.....	.....	.....	1,200	42.39	677.....	Do.
31	H. Cosgrove.....	20	2.50	.....	50.00	677.....	Do.
32	H. Pfifer.....	36	2.50	.....	90.60	677.....	Do.
33	W. L. Hinds.....	.....	.....	1,080	1,080.00	677.....	Do.
34	G. H. Hughes.....	299	2.00	.....	598.00	677.....	Do.
35	R. H. Smith.....	11	3.50	.....	38.50	770, 771, 772.....	Repairs to bridges.
	Do.....	15	4.00	.....	60.00	770, 771, 772.....	Do.
36	T. Woods.....	46	4.00	.....	184.00	738.....	Do.
	Wm. Henderson.....	223	4.00	.....	892.00	740.....	Purchase of sites and erection of new school-buildings, 1887.
	John H. Bird.....	206	4.00	.....	824.00	750.....	Do.
	Wm. Henderson.....	10	4.00	.....	40.00	791.....	Erection of 8-room building in division No. 3, 1888.
	John H. Bird.....	13	4.00	.....	52.00	792.....	Erection of 8-room building in division No. 2, 1888.
	Peter Hepburn.....	77	4.00	.....	308.00	765.....	Erection of 8-room building in division No. 4, 1888.
	Total.....	.....	.....	.....	2,116.00	.....	

APPENDIX 23.

Pavement Contracts, 1886-'87.

ASPHALT BLOCK PAVEMENTS.

Date.	No. of contract.	Contractor.	Locality.	Square yards.	Price per square yard.	Contract work.	Cost of material.	Total cost.	Remarks.
1886. Aug. 24	724	P. Maloney.....	Maryland avenue northeast, from First to Fourth street.	11,535.48	\$2.00	\$26,631.16	\$73.00	\$26,944.66	Includes \$240 for dressing curb.
			Fourth street northeast, from Maryland avenue to Massachusetts avenue.	1,912.16	2.00	4,392.86	79.63	4,472.46	
			Sixth street northeast, from Maryland avenue to Massachusetts avenue.	1,997.60	2.00	4,618.36	80.50	4,698.86	
			C street northeast, from Fourth to Sixth street.	4,478.23	2.00	11,810.98	683.15	12,493.13	
				19,923.47	.....	47,453.36	916.78	48,609.14	

ASPHALT PAVEMENTS.

Sept. 18	736	Barber Asphalt Paving Company.	Indiana avenue, from First to Third street.	8,530.28	\$2.00	\$19,810.47	\$4,014.40	\$25,945.87	Includes \$2,121 for removing old material. Includes \$750.50 for redressing curb and \$183.85 for removing old material. Includes \$1,046.64 for removing old material.
			North Capitol street, from Massachusetts avenue to I street.	7,456.80	2.00	16,620.79	2,205.12	19,760.26	
			I street, from Eighteenth street to Pennsylvania avenue.	5,536.60	2.00	12,001.92	1,937.08	14,985.64	
				21,523.68	.....	48,433.18	8,156.60	60,691.77	

Pavement contracts, 1886-'87—Continued.
COAL TAR, DISTILLATE, AND ASPHALT PAVEMENTS.

Date.	No. of contract.	Contractor.	Locality.	Square yards.	Price per square yard.	Contract work.	Cost of material.	Total cost.	Remarks.
Aug. 27	727	H. L. Cranford	Four-and-a-half street northwest, from Pennsylvania avenue to Missouri avenue. Sixth street northwest, from G street to New York avenue. Fourteenth street northwest, from B street to Pennsylvania avenue. H street northwest, from Fourth street to Seventh street. C street southwest, from Four-and-a-half street to Sixth street. E street southwest, from Third street to Four-and-a-half street. Thirty-fifth street, from N street to P street.	2, 284.83 6, 896.22 8, 851.38 6, 381.10 2, 273.00 2, 370.59 2, 929.23	\$1.97 1.97 1.97 1.97 1.97 1.97 1.97	\$5, 769.93 16, 539.94 21, 451.03 16, 094.25 7, 057.79 5, 493.29 6, 980.24	\$438.99 1, 452.12 1, 050.84 2, 950.05 857.82 292.34 1, 183.46	\$6, 773.26 19, 148.22 24, 113.33 20, 444.33 7, 915.61 5, 785.63 8, 377.12	Includes \$564.34 for removing old material. Includes \$1, 156.26 for removing old material. Includes \$1, 601.46 for removing old material. Includes 1,395.24 for removing old material, and \$4.79 for redressing curb. Includes grading, setting curb, and laying sidewalks from Sixth to Seventh streets. Includes \$200.32 for grading, setting curb and \$13.10 for laying sidewalks. Includes \$13.92 for grading, setting curb, and \$140.13 for laying sidewalks. Includes \$278.25 for redressing curb.
	762	H. L. Cranford	O street, from Twentieth street to Twenty-first street. Q street, from Twentieth street to Twenty-second street.	2, 010.97 2, 541.93 36, 541.31	1.97 1.97	4, 732.50 5, 631.19 89, 760.16	398.58 100.86 8, 725.06	5, 285.13 6, 010.30 103, 852.93	

GRANITE BLOCK PAVEMENT.

Aug. 25	729	John Cudmore.....	C street southwest, from Sixth street to Seventh street.	1, 830.38	\$0.75	\$1, 547.37	\$3, 108.00	\$4, 655.37	Granite blocks furnished by District of Columbia.
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FRENCH MASTIC SIDEWALK.

Oct. 8.	749	Barber Asphalt Paving Company.	I street northwest, from Eighteenth street to Pennsylvania avenue.	3, 056.21	\$1.60	\$5, 003.41	\$140.00	\$5, 143.41	
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Pavement contracts, 1886-'86—Continued.
GRADING AND REGULATING.

Date.	No. of con- tract.	Contractor.	Locality.	Grading, cubic yards.	Price. Cts.	Graveling square yards.	Price. Cts.	Contract work.	Cost of material.	Total cost.	Remarks.
1886. Aug. 2	718	T. Bean	I and K street, from South Capitol street to Canal street southwest.	6, 826. 00	5	.....	Cts.	\$341. 30	.....	\$341. 30	
Aug. 3	719	S. Talty	Twenty-second street, from O street to P street.	2, 202. 00	10	.....	.....	220. 20	.....	220. 20	
Aug. 4	721	Andrew Gleeson	E street southeast, from South Cap- itol street to Third street.	9, 277. 55	15	5, 675. 88	7	4, 711. 89	\$2, 447. 41	7, 159. 30	
			E street southwest, from South Capitol street to First street.	233. 00	15	2, 420. 32	8	780. 18	1, 230. 16	2, 010. 34	
			Virginia avenue southwest, from First street to Second street.	1, 408. 00	19	2, 776. 76	10	1, 175. 44	89. 35	1, 264. 79	
Aug. 10	726	William Buckley	Eight street, from East Capitol street to Pennsylvania avenue.	8, 499. 32	18	5, 892. 13	18	7, 561. 43	771. 68	8, 333. 11	
			Third street southwest, from F to N street.	16, 470. 50	18	9, 432. 87	14	10, 518. 67	1, 651. 48	12, 610. 99	Includes \$440.84 for redressing curb.
			Thirteenth street northwest, from T street to Boundary.	2, 579. 70	18½	5, 016. 53	18	3, 489. 75	1, 451. 89	5, 444. 09	Includes \$502.45 for redressing curb.
		Total .....	.....	47, 496. 07	.....	31, 214. 49	.....	28, 798. 86	7, 641. 97	37, 384. 12	

REPAIRS TO BITUMINOUS CONCRETE PAVEMENTS.

Date.	No. of con- tract.	Contractor.	Locality.	Square yards.	Price.	Contract work.	Cost of material.	Total cost.	Remarks.
	676	H. L. Cranford	New York avenue, from Twelfth street to Thirteenth street.	1, 434. 09	\$1. 47	\$2, 685. 18	.....	\$2, 685. 18	Re-surfaced; includes base, binder, extra and incidental work.
			Thirteenth street northwest, from C street to Pennsylvania avenue.	2, 979. 94	1. 47	4, 524. 20	.....	4, 524. 20	Do.
			East side Ninth street northwest, from M to N street.	902. 65	1. 47	1, 433. 81	.....	1, 433. 81	Do.
			P street, from approach to bridge.	1, 310. 92	1. 47	2, 089. 23	.....	2, 089. 23	Do.
			Pennsylvania avenue, from Twen- tieth street to Eighteenth street.	3, 909. 18	1. 05	4, 355. 12	.....	4, 355. 12	Do.
			Fifth street, from G street to I street.	2, 440. 44	1. 47	3, 769. 70	.....	3, 769. 70	Do.

APPENDIX 24.

SEWERS (CONTRACTS).

Date.	No. of contract.	Section.	Location.	Size and kind of sewer.	Length in feet.	Cost per foot.		Variations in excavation.		Variations in masonry.		Cost of lumber.	Cost of work.	Cost of extra work.	Amount paid contractor.	Cost of material.	Cost of inspection.	Total cost.
								Excess.	Deficit.	Excess.	Deficit.							
1886. Aug. 25	730	NW.	Fifth st. from Rhode Island av. to S st.	12-inch....	469	\$0.82	\$2.50						\$387.08		\$387.08	\$81.98	\$34.19	\$503.25
			Sixth st. from northwest corner to Rhode Island av.	12-inch....	6	.82							4.92		4.92	1.05	.44	6.41
			Eighth st. from S to T sts.	12-inch....	468	.82					\$2.70		373.96		373.96	81.80	33.03	488.79
			Fourteenth st. extended.	12-inch....	96	1.48			\$7.10					142.08	142.08	16.78	12.55	171.41
			Fifteenth st. from O to P.	12-inch....	210	.82			5.70				166.48		166.48	36.71	14.70	217.89
			Fifteenth st. from U to V sts.	12-inch....	115	.82	15.50						109.80		109.80	20.10	9.69	139.59
			Eighteenth st. from E to F sts.	12-inch....	202	.82	12.63			\$8.00			186.27		186.27	35.31	16.45	238.03
			Eighteenth st. from P to Q sts.	12-inch....	350	.82	5.05						292.05		292.05	61.18	25.79	379.02
			Twenty-second st. from L to M sts.	12-inch....	192	.82	3.61						161.05		161.05	33.56	14.22	208.83
			D st. from Fourteenth to Fifteenth.	12-inch....	150	.82			29.88		9.18		83.94		83.94	26.22	7.43	117.59
			E. st. from Third to Fourth sts.	12-inch....	164.7	.82			.79				134.26		134.26	28.79	11.56	174.91
			E st. from Nineteenth to Twentieth sts.	12-inch....	316	.82	6.20				2.79		268.11		268.11	55.24	23.68	347.03
			Jackson alley.	12-inch....	240	.82			4.03			\$4.50	197.27		197.27	41.95	17.42	256.04
			Pierce st. from New Jersey av. to First st.	12-inch....	500	.82	22.80			6.30			439.10		439.10	87.40	38.78	565.28
			S st. from Twentieth st. to Connecticut av.	12-inch....	190	.82	.68						156.48		156.48	33.21	13.83	203.52
			U st. from Crossing to Fourteenth st.	12-inch....	70.5	.82	4.74						62.55		62.55	12.32	5.53	80.40
SW.			Vermont av. from T to U sts.	12-inch....	250	.82	8.90			3.24			217.14		217.14	43.70	19.19	280.03
			D st. from Sixth to Ninth sts.	12-inch....	1,255.5	.82			20.41	30.00	10.08		1,029.02		1,029.02	219.45	90.90	1,339.37
			Delaware av. from G to H sts.	12-inch....	353	.82			14.12		2.79		272.55		272.55	61.70	24.07	358.32
			H st. from Delaware av. to Third st.	12-inch....	538	.82			53.37		18.63		369.16		369.16	94.04	32.61	495.81
			H st. from Eighth to Ninth sts.	12-inch....	236	.82	.50						194.02		194.02	41.25	17.13	252.40
			H st. from Seventh to Eighth sts.	12-inch....	257	.82	6.57			1.89			219.22		219.22	44.93	19.37	283.52
			I st. from Four-and-a-half to Sixth sts.	12-inch....	535	.82	40.65				1.35		478.00		478.00	93.52	42.21	613.73
			Myrtle st.	12-inch....	278	1.38								383.64	383.64	48.59	33.88	466.11
			N st. from Third to Four-and-a-half sts.	12-inch....	594	.82			16.16		5.04		465.88		465.88	103.83	41.14	610.85
			First st. from D to E sts.	12-inch....	680	.82			105.79		28.62		423.19		423.19	118.86	37.37	579.42
			Third st. from G to H sts.	12-inch....	313.5	.82			35.61		5.58		215.88		215.88	54.80	19.07	289.75
			Third st. from M to N sts.	12-inch....	579	.82			72.26		19.44		383.08		383.08	101.20	33.83	518.11
			Eighth st. from G to H sts.	12-inch....	449	.82			6.06				362.12		362.12	78.48	31.98	472.58

SEWERS (CONTRACTS)—Continued.

Date.	No. of contract.	Section.	Location.	Size and kind of sewer.	Length in feet.	Cost per foot.	Variations in excavation.		Variations in masonry.		Cost of lumber.	Cost of work.	Cost of extra work.	Amount paid contractor.	Cost of material.	Cost of inspection.	Total cost.
							Excess.	Deficit.	Excess.	Deficit.							
Aug. 25	730	NE.	Delaware av. from H to I sts.	12-inch.	317	\$0.82	\$3.70			\$3.33		\$260.31		\$260.31	\$55.41	\$22.99	\$338.71
			Delaware av. from I to K sts.	12-inch.	425	.82		\$14.09				334.41		334.41	74.29	29.53	438.23
			East Capitol st. from Sixth to Seventh sts.	12-inch.	598	.82	\$9.05		\$20.70			600.11		600.11	104.51	53.01	757.63
			H st. from First st. to Delaware av.	12-inch.	190	.82		1.21			\$4.50	159.09		159.09	33.21	14.05	206.35
			H st. from Second to Third sts.	12-inch.	330	.82	.66					271.26		271.26	57.68	23.96	352.90
			H st. from Fifth to Sixth sts.	12-inch.	214.3	.82		3.85				171.89		171.89	37.46	15.18	224.53
			H st. from NE. corner to Ninth st.	12-inch.	9	.82						7.38		7.38	1.57	.66	9.61
			Maryland av. from Seventh to Eighth sts.	12-inch.	310	.82	9.92		4.41			268.53		268.53	54.19	23.72	346.44
			First st. from H to I sts.	12-inch.	633	.82		7.40		2.79		508.87		508.87	110.65	44.94	664.46
			Fifth st. from H to I sts.	12-inch.	315	.82	5.42		1.62			265.34		265.34	55.06	23.44	343.84
			Sixth st. from G to H sts.	12-inch.	436	.82	19.18		5.94		16.50	399.14		399.14	76.21	35.25	510.60
			Eighth st. from H to I sts.	12-inch.	330	.82	.35		.90			271.85		271.85	57.68	24.01	353.54
			Fifth st. from E to G sts.	12-inch.	800	.82	2.08		.72			658.80		658.80	139.85	58.18	856.83
			Fifth st. from C to D sts.	12-inch.	740	.82		12.78		2.79		591.23		591.23	129.35	52.22	772.80
			Seventh st. from South Carolina ave. to D st.	12-inch.	318.7	.82	21.90					283.23		283.23	55.71	25.01	363.95
			B st. from Sixth to Seventh sts.	12-inch.	480	.82		6.05		1.71		385.84		385.84	83.90	34.08	503.82
			D st. from Ninth to Tenth sts.	12-inch.	260	.82	1.80					215.00		215.00	45.45	18.99	279.44
			E st. from Sixth to Seventh sts.	12-inch.	625	.82		6.54	.81			505.15		505.15	109.25	44.63	659.03
			G st. from Twelfth to Thirteenth sts.	12-inch.	400	.82		4.48	.99			322.53		322.53	69.92	28.49	420.94
			Pennsylvania ave. from Sixth to Seventh sts.	12-inch.	685	.82	25.83		6.84			594.37		594.37	119.73	52.47	766.57
			Sixth st. from S to Rhode Island ave.	15-inch.	376	.84	6.81		2.25			324.90		324.90	113.99	28.69	467.58
			Fourteenth st. extended	15-inch.	335	1.69							\$566.15	566.15	101.56	50.01	717.72
			Rhode Island ave. from Fifth to Sixth sts.	15-inch.	284	.84	20.06		2.34			260.96		260.96	86.10	23.05	370.11
			N st. from Second to Third sts.	15-inch.	375	.84		23.23		4.95		286.82		286.82	113.69	25.33	425.84
			Eighth st. from H to I sts.	15-inch.	396	.84						332.64		332.64	120.05	29.38	482.07
			H st. from Eighth to Ninth sts.	15-inch.	352.5	.84		18.40	3.96			273.74		273.74	106.86	24.17	404.77
			I st. from Eighth to Ninth sts.	15-inch.	355	.94		1.00				297.20		297.20	107.61	26.25	431.06
			Pennsylvania ave. from Sixth to Seventh sts.	15-inch.	877	.84	45.28		11.70			793.66		793.66	265.89	70.10	1,129.65
			Sixth st. from R st. to Rhode Island ave.	18-inch.	240.5	.84	14.40		3.51			243.98		243.98	131.83	21.55	397.36
			Fourteenth st. extended	18-inch.	33.5	1.91							63.98	63.98	18.36	5.65	87.99
			Myrtle	18-inch.	550	1.79							984.50	984.50	301.50	86.95	1,372.95

	North Capitol st. from H to Defrees sts.	18-inch....	46	.94	23.00	.....	.....	.....	.....	66.24	.....	66.24	.....	25.22	5.85	97.31
	U st. from Fourteenth to Fifteenth sts.	18-inch....	694.5	.94	67.21	.....	22.23	.....	.....	742.27	.....	742.27	.....	380.69	65.56	1,188.52
NE.	Eighth st. from G to H sts	18-inch....	511	.94	.....	.....	.....	.....	.....	480.34	.....	480.34	.....	280.10	42.42	802.86
NW.	Fifteenth st. from U to V sts	24-inch....	405	1.10	102.70	.....	19.44	.....	25.65	593.29	.....	593.29	.....	490.40	52.42	1,136.11
	Fifth st. from Rhode Island ave. to S st.	6-inch....	73	.40	.....	.....	.....	.....	.....	29.20	.....	29.20	.....	6.99	2.58	38.77
	Sixth st. from Rhode Island ave. to S st.	6-inch....	46	.40	.....	.....	.....	.....	.....	18.40	.....	18.40	.....	4.42	1.63	24.45
	Rhode Island ave. from Fifth to Sixth sts.	6-inch....	137	.40	.....	.....	.....	.....	.....	54.80	.....	54.80	.....	13.14	4.84	72.78
SW.	D st. from Sixth to Seventh sts	6-inch....	562	.40	23.70	.....	.....	.....	.....	248.50	.....	248.50	.....	53.88	24.06	350.39
NE.	East Capitol st. from Sixth to Sev- enth sts.	6-inch....	135	.40	29.00	.....	.....	.....	.....	83.00	.....	83.00	.....	12.95	7.33	103.28
SE.	Pennsylvania ave. from Sixth to Seventh sts.	6-inch....	468	.40	.....	.....	.....	.....	.....	187.20	.....	187.20	.....	44.87	17.29	257.91
NW.	Fourteenth st. extended	Constructing blind drain	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.74	21.38
					642.38	470.31	154.82	124.74	51.15	20,044.05	2,192.49	22,236.54	6,009.13	1,964.00		30,209.67

BRICK SEWERS (CONTRACT).

Date.	No. of contract.	Section.	Location.	Size and kind of sewer.	Length in feet.	Cost per foot.	Variations in excavation.		Variations in masonry.		Cost of rock ex- cavation.	Cost of work.	Cost of extra work.	Amount paid con- tractor.	Cost of material.	Cost of inspection.	Total cost.
1886. Aug. 25	728	NW.	Thirty-third st. from N to P sts	Brick	580	4.10	Excess.	19.83	Defect.	.....	250.00	2,647.83	60.90	2,708.73	75.60	205.85	2,990.18
		SW.	Thirty-fifth st. from N to P sts	Brick	550	4.10	Excess.	61.28	Defect.	.....	62.50	2,378.78	32.26	2,411.04	71.70	183.24	2,665.98
			Water st. from Maryland ave. to River st.	3 ft. dia...	389	4.30	Excess.	.....	Defect.	90.68	.....	1,589.47	590.67	2,180.14	156.90	165.68	2,502.72

SW.	6th and C, SW. cor. 4th and G, NE. cor. 2d and G, NE. cor. 1st and B, SW. cor. 1st and E, NE. cor. 1st and E, NW. cor. 13½ and Water, NE. cor. 6th and C, SW. cor. E and Del. ave., SE. cor. Ohio ave. and 14th, NW. cor. Ohio ave. and 14th, NE. cor. 1st and E, NE. cor. 7th and G, SW. cor. 7th and G, SE. cor. 8th and C, NW. cor. 8th and C, NE. cor. E and N. Cap., SW. cor.	25	52.00	15.80 ³ / ₄	1.695.08 ¹³ / ₁₄	50.82 ²³ / ₃₃	1,745.91 ²³ / ₃₃	4.87 ⁶ / ₁₄	121.85 ³ / ₁₄	5.28 ¹¹ / ₁₆	132.18 ¹¹ / ₁₆	1,000.95 ¹³ / ₁₆
SE.		1	52.00	15.80 ⁵ / ₁₄	67.80 ⁵ / ₁₄	19.28 ¹⁷ / ₃₃	87.08 ²⁷ / ₃₃	4.87 ⁶ / ₁₄	4.87 ⁶ / ₁₄	.....	6.42 ¹¹ / ₁₆	98.38 ²³ / ₃₃
NW.		56	52.00	15.80 ⁵ / ₁₄	3,797.00	131.10	3,928.10	4.87 ⁶ / ₁₄	272.96	5.28 ¹¹ / ₁₆	297.23	4,498.29

APPENDIX 25.

MISCELLANEOUS AND SUPPLY CONTRACTS.

Supply contracts.

Date.	Number of contract.	Name of contractor.	Nature of work.
1886.			
July 13	679	R. Leitch & Son	Furnish and deliver plumbers' supplies for one year, from July 1, 1886.
July 13	680	J. M. Wheatley	Furnish and deliver lime for one year, from July 1, 1886.
July 13	681	G. A. Shehan	Furnish and deliver lumber for one year, from July 1, 1886.
July 10	682	Washington Brick Machine Company.	Furnish and deliver bricks for one year, from July 1, 1886.
July 15	683	Scheller & Stevens	Furnish and deliver drugs for one year, from July 1, 1886.
July 16	684	Wm. Ballantyne & Son	Furnish and deliver stationery for one year, from July 1, 1886.
July 16	685	G. J. Johnson	Furnish and deliver dry goods for one year, from July 1, 1886.
July 16	686	C. C. Carroll	Furnish and deliver fresh meats for one year, from July 1, 1886.
July 16	687	B. Bailey	Furnish and deliver hardware for one year, from July 1, 1886.
July 14	688	W. J. C. Dulaney	Furnish and deliver school-books for one year, from July 1, 1886.
July 16	689	Judd & Detweiler	Furnish and deliver blank forms and printing for one year, from July 1, 1886.
July 16	690	Lansburgh & Bro.	Furnish and deliver dry goods for one year, from July 1, 1886.
July 16	691	W. H. Butler	Furnish and deliver paints, oils, and glass for one year, from July 1, 1886.
July 17	692	Acker & Co	Furnish and deliver bluestone curbing for one year, from July 1, 1886.
July 17	693	Acker & Co	Furnish and deliver granite curbing for one year, from July 1, 1886.
July 18	694	Barbour & Hamilton	Furnish and deliver groceries for one year, from July 1, 1886.
July 16	695	W. B. Moses & Son	Furnish and deliver furniture for one year, from July 1, 1886.
July 19	697	J. C. Ergood & Co.	Furnish and deliver groceries for one year, from July 1, 1886.
July 20	698	T. Somerville & Sons	Furnish and deliver plumbers' supplies for one year, from July 1, 1886.
July 21	700	Johnson Bros.	Furnish and deliver fuel for one year, from July 1, 1886.
July 19	701	The Hastings Pavement Company.	Furnish and deliver asphalt blocks and tiles for one year, from July 1, 1886.
July 16	704	W. M. Galt & Co	Furnish and deliver groceries for one year, from July 1, 1886.
July 16	705	W. M. Galt & Co	Furnish and deliver forage for one year, from July 1, 1886.
July 16	706	W. B. Williams	Furnish and deliver furniture for one year, from July 1, 1886.
July 26	708	H. I. Gregory	Furnish and deliver tin-ware and street lamps for one year, from July 1, 1886.
July 20	709	Browning & Middleton	Furnish and deliver groceries for one year, from July 1, 1886.
July 20	710	R. Cohen	Furnish and deliver boots and shoes for one year, from July 1, 1886.
July 21	711	J. T. Springman & Son	Furnish and deliver lamp posts and castings for one year, from July 1, 1886.
July 23	712	E. G. Wheeler	Furnish and deliver telegraph and telephone supplies for one year, from July 1, 1886.
July 23	713	Bryan Bros	Furnish and deliver groceries for one year, from July 1, 1886.
July 24	714	Royce & Marean	Furnish and deliver telegraph and telephone supplies for one year, from July 1, 1886.
July 28	715	H. W. Blunt	Furnish and deliver cement for one year, from July 1, 1886.
Aug. 2	716	Frank Hume	Furnish and deliver bacon and ham for one year, from July 1, 1886.
Aug. 2	717	Frank Hume	Furnish and deliver groceries for one year, from July 1, 1886.
Aug. 3	720	Virginia State Granite Company.	Furnish and deliver granite blocks for one year, from July 1, 1886.
Oct. 26	756	Brandywine Granite Company..	Furnish and deliver 5,000 linear feet 6 by 20 granite curb for one year, from July 1, 1886.

Miscellaneous contracts.

Date.	Number of contract.	Name of contractor.	Nature of work.	Cost.
1886.				
July 12	677	I. S. Filbert	Sprinkling, sweeping, and cleaning paved carriage-ways in the cities of Washington and Georgetown for the period of one year from July 1, 1886.	\$33,969.33
July 13	678	W. E. Hodge.....	Sprinkling, sweeping, and cleaning paved alleys and entrances in the cities of Washington and Georgetown for the period of one year from July 1, 1886.	9,511.59
July 20	699	F. M. Draney.....	Remove garbage and dead animals for the period of one year from July 1, 1886.	15,000.00
Nov. 9	722	Washington Gas-Light Company.	Furnish illuminating gas, light, extinguish, clean, and keep clean street lamps in Washington.	.....
Aug. 19	725	James Reynolds*....	Take up and haul old material from various streets..	8,283.03
Sept. 2	732	C. Thomas.....	Construct and complete brick stable and adjacent room for police station on New Jersey avenue, between D and E streets northwest.	2,223.00
Sept. 6	733	Atchison & Looney.	Improve Tennallytown road.....	9,295.66
Sept. 7	734	Frank Baldwin.....	Construct and complete brick stable on rear of lot at police station on Fifth street, between M and N streets northwest.	1,388.36
Sept. 10	735	Potomac Terra Cotta Company.	Furnish terra-cotta material.....	.....
Sept. 21	737	J. B. Halliday.....	Construct a wooden building for hospital purposes on grounds of the Washington Asylum.	3,305.00
Sept. 21	738	G. Cumberland.....	Repair the Anacostia Bridge across Eastern Branch.	4,785.13
Sept. 15	739	A. Lamond	Furnish terra-cotta material .....	.....
Sept. 25	740	C. Thomas.....	Construct one eight-room brick building for school purposes on B street, between Twelfth and Thirteenth streets northeast.	25,798.21
Sept. 28	741	Camden Iron Works	Furnish cast-iron water-pipe and valves.....	.....
Oct. 4	742	J. McClelland.....	Furnish twenty 6-inch four-way valves.....	.....
Nov. 12	743	Georgetown Gas-Light Company.	Furnish illuminating gas, light, extinguish, clean, and keep clean street lamps in Georgetown.	.....
Oct. 6	744	McNeal Pipe and Foundry Company.	Furnish cast-iron pipe and castings.....	.....
Oct. 9	745	H. Lyles	Furnish sand, gravel, and broken stone.....	.....
Oct. 9	746	United States Electric Lighting Company.	Maintain twenty-one electric lamps on Pennsylvania avenue, between First and Fifteenth streets, and nineteen electric lamps, for the year ending June 30, 1887.	.....
Sept. 9	748	Beckwith & Quackenbush.	Furnish 6,640 feet of 6-inch cast-iron water-pipe	3,545.64
Oct. 16	750	F. Baldwin	Construct one eight-room school building on northeast corner Twenty-third and M streets northwest.	42,208.72
Oct. 18	751	M. C. and L. Flannery	Construct a bridge over Popes' Creek on the Anacostia road.	1,367.38
Oct. 27	757	I. D. Smead	Furnish and set two No. 18 Ruttan tubular masonry furnaces in school building on B street, between Twelfth and Thirteenth streets.	1,350.00
Oct. 27	758	do	Furnish and set four No. 6 Ruttan tubular masonry furnaces, and fourteen cast-iron seats, iron floor, one slack heater for dry closets in school corner Twenty-third and M streets northwest.	1,929.00
Sept. 13	760	The American Sewer-Pipe Company.	Furnish terra-cotta pipe.....	.....
Dec. 20	761	Viney & Baker	Furnish ten 6-inch three-way gates.....	.....
Nov. 13	763	Edge Moor Iron Company.	Construct and erect iron bridge at Klinge Ford on Rock Creek.	3,075.00
1887.				
Apr. 11	770	W. C. Peake	Paint bridges.....	742.00
Apr. 11	771	J. H. Lippard & Co..	do	160.00
Apr. 12	772	J. F. Clark	do	102.00
Apr. 13	773	D. A. Driscoll.....	Construct a two-story frame addition to school-house on the Hamilton road.	2,654.44
Apr. 20	774	John Cooper.....	Furnish one sixteen-horse-power steam-engine and boiler mounted on wheels.	635.00
Apr. 29	777	Haliday & Wilson..	Construct one eight-room school-house .....	.....
May 5	778	Acker & Co	Furnish blue-stone curbing on G street, between Third and Fourth streets southeast.	.....
May 6	779	G. Creaney.....	Dress 1,100 feet, more or less, of curb.....	220.00

* Included in street schedules.

APPENDIX 26.

Work done by railroad companies.

Comp. Tract.	Company.	Locality.	Character of repair.	Square yards.	Price.	Cost.
676	Columbia Railroad.....	Intersection Twelfth street and New York avenue.....	Concrete.....	5.17	\$1.05	\$5.43
676	do.....	Intersection Thirteenth street and New York avenue.....	do.....	1.66	1.05	1.74
676	do.....	New York avenue, from Thirteenth street to Fifteenth street.....	do.....	22.31	1.05	32.25
676	do.....	New York avenue, at Thirteenth street.....	Concrete and granite.....	29.89	1.05	44.76
676	do.....	K street northwest, from Seventh street to Ninth street.....	Concrete.....	1.34	2.88	1.41
676	do.....	K street northwest, from Seventh street to Ninth street.....	do.....	2.87	1.05	3.01
676	Capitol, O Street and South Washington Railroad.....	Intersection Pennsylvania avenue and E street.....	Asphalt.....	50.54	1.47	80.92
676	do.....	O street northwest, from Fourth street to Tenth street.....	do.....	.52	1.47	.86
727	do.....	Fourteenth street northwest, from B street to Pennsylvania avenue.....	Granite blocks.....	904.00		
727	do.....	Fourteenth street northwest, from B street to Pennsylvania avenue.....	Coal-tar distillate.....	329.27		4,539.42
727	do.....	Fourteenth street northwest, from B street to Pennsylvania avenue.....	Asphalt block.....	338.30		
676	do.....	G street northwest, from First street to Seventeenth street.....	Asphalt.....	28.91	1.05	31.03
676	do.....	O street northwest, from Fourth street to Tenth street.....	Coal-tar.....	64.10	1.47	72.27
676	do.....	F street northwest, at Eleventh street.....	do.....	2.92	1.05	3.06
676	do.....	Eleventh street and G street northwest.....	Concrete.....	3.05	1.05	3.10
676	do.....	E street northwest, from Ninth street to Eleventh street.....	Asphalt.....	8.17	1.47	12.02
676	do.....	Fourth street northwest, from G to New York avenue.....	Coal-tar.....	198.82	1.05	208.76
676	Metropolitan Railroad.....	Intersection Seventeenth street and H street.....	Asphalt.....	8.15	1.47	11.99
676	do.....	Seventeenth street, from Pennsylvania avenue to K street.....	Concrete.....	2.24	1.05	2.36
676	do.....	Fourteenth street, from New York avenue to H street.....	Asphalt.....	.84	1.47	1.23
676	do.....	Intersection Pennsylvania avenue and Ninth street.....	do.....	6.13	1.47	9.01
676	do.....	Approach to P-street Bridge.....	Concrete.....	1.73	1.05	1.82
676	do.....	Intersection Fourteenth street and H street.....	Asphalt.....	.21	1.47	.31
676	do.....	East Capitol street, from First street to Ninth street.....	do.....	.44	1.47	.65
676	do.....	Intersection First street and East Capitol street.....	Concrete.....	60.73	1.05	87.50
676	do.....	Intersection First street and B street northeast.....	Asphalt.....	13.91	1.47	23.66
676	do.....	Intersection New Jersey avenue and D street.....	Concrete.....	6.32	1.05	6.64
676	do.....	Connecticut avenue, from M street to Dupont Circle.....	do.....	.23	1.05	.24
676	do.....	Connecticut avenue, from Dupont Circle to Boundary.....	do.....	450.61	1.05	473.14
727	do.....	Four-and-a-half street, at Missouri avenue.....	Coal-tar and granite.....	16.44	1.05	38.42
676	do.....	F street northwest, from Fifth to Sixth.....	Coal-tar.....	22.61		23.94
676	do.....	F street northwest, from Fourth street to Eleventh street.....	Coal-tar and asphalt.....	15.76	1.05	19.76
676	do.....	Fourteenth street northwest, at H street.....	Asphalt.....	.44	1.47	.64
676	do.....	Dupont Circle.....	Concrete.....	15.62	1.05	19.95
676	do.....	Ninth street, at Pennsylvania avenue.....	Asphalt.....	3.55	1.47	5.24
676	do.....	East Capitol street, from First street to Ninth street.....	do.....	134.25	1.47	197.35
676	do.....	Intersection Fourteenth street and H street.....	Asphalt and coal-tar.....	11.81	1.47	13.11
					1.05	

736	do	Pennsylvania avenue, at Ninth street.....	Asphalt.....	38.38	1.47	56.42
	do	Indiana avenue from First street to Third street.....	Asphalt and granite	231.63	1.97 3.24	552.16
727	Metropolitan R. R.....	Thirty-fifth street, from O street to P street	Coal-tar distillate and granite	231.63	{ 1.97 3.24 }	552.16
676	do	Seventeenth street, from New York avenue to K street.....	do	158.77	1.05	172.25
676	do	Ninth street, at Pennsylvania avenue.....	Asphalt	6.71	1.47	9.86
676	do	Fourteenth street, from New York avenue to H street.....	Asphalt and coal-tar.....	13.32	{ 1.05 1.47 }	18.50
676	do	Ninth street, from N street to O street.....	Coal-tar.....	6.81	1.05	7.15
676	do	Dupont Circle	do	24.76	1.05	27.35
676	do	First street northeast, from B street to East Capitol street.....	do	59.62	1.05	62.92
676	do	F street northwest, from Eighth street to Fourteenth street.....	Asphalt	29.72	1.47	43.69
676	do	Pennsylvania avenue, at Ninth street.....	do	269.33	1.47	466.92
676	Washington and George- town R. R.	Fourteenth street, from New York avenue to Boundary	do	208.85	1.47	306.94
676	do	Intersection Pennsylvania avenue and Seventh street.....	do	.27	1.47	.40
676	do	Intersection Pennsylvania avenue and Fourteenth street.....	do	.67	1.47	.98
676	do	Fifteenth street, from New York avenue to Pennsylvania avenue	do	40.51	1.47	90.31
676	do	Pennsylvania avenue, from First street to Fifteenth street.....	do	242.63	1.47	356.68
676	do	Pennsylvania avenue, from Twentieth street to Twenty-second street.....	Coal-tar.....	78.60	1.05	102.21
676	do	Pennsylvania avenue southeast, from First street to Third street	Asphalt and coal-tar.....	230.37	{ 1.47 1.05 }	366.88
676	do	Intersection C street and New Jersey avenue.....	Asphalt	4.54	1.47	6.68
676	do	Thomas Circle.....	do	1.43	1.47	2.10
				4,611.41	.....	9,178.36

APPENDIX 27.

Character and extent of street pavements, July 1, 1887.

WASHINGTON.

[Streets marked thus * have been paved since July 1, 1878.]

Street.	From—	To—	Carriageway.							Remarks.	
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.		Unimproved.
			Feet.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	
North Capitol	B street north	C street north	50	*2,790							Gravel from I to Boundary.
Do.	C street north	Boundary	50	*7,457					22,901	4,542	
South Capitol	B street south	M street south	50						26,284		
Do.	M street south	N street south	50								
Do.	N street south	River	50					3,243	13,259		From M st. south to N st. 1,511 yards cobble bet. R. R. tracks.
First street east	B street north	B street south	50	8,657				1,511			
Do.	do	C street north	35	*1,986							O. c. walk, curb, and gutter, G to K street.
Do.	C street north	K street north	35						9,245	2,217	
Do.	K street north	Boundary	35							9,431	
Do.	B street south	C street south	38								
Do.	C street south	Canal	35		*2,151				5,639		From B st. south to C st. O. c. walk, curb, and gutter, M to N.
Do.	Canal	River	35						3,500	6,222	
First street west	Pennsylvania avenue	Indiana avenue	56 }								Cobble bet. R. R. tracks.
Do.	Indiana avenue	F street north	40 }		*8,332			4,055			
Do.	G street north	H street north	32		*1,427						Concrete from H to Defrees.
Do.	H street north	I street north	32	*700	*535						
Do.	I street north	K street north	32						1,124		
Do.	K street north	Boundary street	32							11,022	
Do.	Pennsylvania avenue	Maryland avenue	53	*4,861				1,133			
Do.	Maryland avenue	M street south	35		17,920						
Do.	M street south	N street south	34					2,314			
Do.	N street south	River	35								
Second street east	Pennsylvania avenue	Maryland avenue	32	*4,751							
Do.	Maryland avenue	H street north	32						14,222		O. c. walk, curb, and gutter, G to L.
Do.	H street north	Boundary street	32							3,416	
Do.	Pennsylvania avenue	D street south	{ 32 }	*4,906							
			{ 35 }								

[illegible]

[illegible]

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued.

Street.	From—	To—	Carriageway.							Remarks.
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.	Unimproved.
Thirteenth street west....	K street north.....	Circle.....	<i>Fect.</i> 32	Sq. yds. 8, 090	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.
Do.....	Circle.....	Boundary.....	32	*6, 398	.....	.....	.....	.....	.....	.....
Do.....	B street south.....	Maryland avenue.....	40	5, 706	.....	.....	.....	.....	*7, 236	.....
Do.....	Maryland avenue.....	Water street.....	40	.....	.....	.....	.....	.....	.....	1, 636
Thirteen-and-a-half street west.	Pennsylvania avenue.....	B street north.....	35	.....	.....	.....	5, 005	.....	.....	.....
Do.....	B street south.....	Maryland avenue.....	32	.....	.....	.....	4, 291	.....	.....	.....
Fourteenth street east....	East Capitol.....	Boundary.....	35	.....	.....	.....	.....	.....	11, 698	2, 722
Do.....	do.....	River.....	32	.....	.....	.....	.....	.....	.....	14, 791
Fourteenth street west....	B street north.....	B street south.....	40	.....	7, 841	.....	.....	.....	.....	.....
Do.....	do.....	F street north.....	70	*9, 518	*2, 618	.....	.....	.....	.....	.....
Do.....	F street north.....	Thomas Circle.....	70	*16, 655	.....	.....	4, 004	.....	.....	.....
Do.....	Thomas Circle.....	Boundary.....	70	*32, 782	.....	.....	8, 024	.....	.....	.....
Do.....	B street south.....	Water street.....	40	.....	.....	.....	6, 764	.....	.....	.....
Fifteenth street east....	East Capitol.....	Boundary.....	32	.....	.....	.....	.....	.....	.....	12, 196
Do.....	do.....	River.....	32	.....	.....	.....	.....	.....	.....	13, 796
Fifteenth street west....	Pennsylvania avenue.....	B street north.....	43	*7, 012	.....	.....	.....	.....	.....	.....
Do.....	do.....	New York avenue.....	70	4, 478	.....	.....	1, 322	.....	.....	.....
Do.....	New York avenue.....	H street north.....	50 }	7, 005	.....	.....	.....	.....	.....	.....
Do.....	H street north.....	K street north.....	40 }	.....	.....	.....	.....	.....	.....	.....
Do.....	K street north.....	Rhode Island avenue.....	32	*6, 920	.....	.....	.....	.....	.....	.....
Do.....	Rhode Island avenue.....	S street north.....	32	7, 516	.....	.....	.....	.....	.....	.....
Do.....	S street north.....	Boundary.....	32	*4, 059	.....	.....	.....	.....	2, 806	.....
Fifteen-and-a-half street west.	Pennsylvania avenue.....	H street north.....	40	1, 997	.....	.....	.....	.....	.....	.....
Sixteenth street east....	East Capitol.....	C street north.....	32	.....	.....	.....	.....	.....	.....	5, 973
Do.....	do.....	Kentucky avenue.....	32	.....	.....	.....	.....	.....	.....	8, 782
Sixteenth street west....	H street north.....	Boundary street.....	50	*36, 659	.....	.....	.....	.....	.....	.....
Sixteen-and-a-half street west.	Pennsylvania avenue.....	H street north.....	40	2, 196	.....	.....	.....	.....	.....	.....
Seventeenth street east....	East Capitol.....	C street north.....	32	.....	.....	.....	.....	.....	.....	4, 196
Do.....	do.....	River.....	32	.....	.....	.....	.....	.....	.....	12, 089

5,942 sq. yards paved since 1878.
Asphalt to T street.275 sq. yds. cobble bet. R. R. tracks.
Cobble bet. R. R. tracks.
Do.

Do.

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued.

Street.	From—	To—	Carriageway.							Remarks.	
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.		Unimproved.
			Feet.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	
Twenty-fourth street west.	East Capitol street	C street north	32								
Do.	do	B street south	32								4,196
Do	E street north	G street north	32								2,560
Do.	G street north	Pennsylvania avenue.	32								2,069
Do.	Pennsylvania avenue.	M street north.	32					5,192			
Do	M Street north	Rock Creek.	32					2,540			
Twenty-fifth street west.	Virginia avenue	River	32								1,200
Do.	Pennsylvania avenue.	Virginia avenue	32					945		2,708	5,735
											3,733
Do	do	Rock Creek.	30								5,440
Twenty-sixth street west.	G street north	D street north.	32							3,378	
Do.	do	K street north.	32					5,042			
Do.	K street north.	Pennsylvania avenue.	32		*1,680						
Do.	Pennsylvania avenue.	M street north.	32	919				505			
Twenty-seventh street west	E street north	L street north	32								8,651
East Capitol street	First street east	Eleventh street east	50	*17,915				6,044			
Do	Eleventh street east	Eastern Branch	50								25,822
A street north	First street east	Second street east	35	*2,788							
Do.	Second street east	Fourth street east	35	*2,972							
Do.	Fourth street east	Eastern Branch.	35							7,039	17,111
A street south.	First street east.	Third street east	35	*3,985							
Do.	Third street east.	Ninth street east	35	*3,317						5,433	
Do.	Massachusetts avenue.	Eastern Branch.	35								14,800
B street north	Delaware avenue	Maryland avenue.	46	5,690				1,819			
Do.	Maryland avenue.	Eleventh street east.	35	*4,809							4,635
Do.	Eleventh street east	Eastern Branch	35								22,000
B street south	New Jersey avenue.	Pennsylvania avenue	45	4,282				2,205			
Do.	Pennsylvania avenue.	Fifth street east.	35	*3,809							
Do.	Fifth street east.	Seventh street east	35							2,998	
Do	Seventh street east.	Twelfth street east.	35								
B street south	Twelfth street east.	Eastern Branch.	32								4,946
B street north	Sixth street west.	Seventh street west	56					3,132			18,133
Do.	Seventh street west	Twelfth street west	101					18,686			

Cobble from K to Pennsylvania avenue.

Cobble bet. R. R. tracks.

Do.

Gravel from Fourth st. to Massachusetts avenue.

Cobble bet. R. R. tracks.

Do.

O. c. walk, curb, and gutter.

[illegible]

F street north.....	Twenty-second street west.	Twenty-seventh street west.	32						6, 947	
F street south.....	South Capitol.....	Four-and-a-half street west.	35						998	
Do.....	Four-and-a-half street west.	Seventh street west.....	35	*4, 206						
Do.....	Seventh street west.	Water street.....	35				6, 838			
G street north.....	North Capitol.....	Fifteenth street east.....	35					12, 444		Gravel from 6th to 13th st.
Do.....	do.....	First street west.....	35					3, 210		
Do.....	First street west.....	Seventh street west.....	35	8, 683			1, 890			Cobble bet. R. R. tracks.
Do.....	Seventh street west.....	Fifteenth street west.....	40	15, 097						
Do.....	Seventeenth street west.	Twenty-second street west.	36	10, 275						
Do.....	Twenty-second street west.	Twenty-seventh street west.	36		9, 511					
G street south.....	Third street east.....	Seventeenth street east	35						*10, 887	O. c. walk, curb, and gutter, from 11th to 14th street.
Do.....	South Capitol.....	Four-and-a-half street west.	35							O. c. walk, curb, and gutter, from 2d to 4½ street.
Do.....	Four-and-a-half street North Capitol.....	Eleventh street west.....	35	*10, 982						Cobble bet. R. R. tracks.
H street north.....	First street east.....	First street east.....	56	*4, 604						9, 204 square yards bet. R. R. tracks.
Do.....	First street east.....	Fifteenth street east.....	56	*15, 490					2, 000	
Do.....	North Capitol.....	First street west.....	50 }	*8, 337						Cobble bet. R. R. tracks.
Do.....	First street west.....	Fourth street west.....	56 }							Cobble bet. R. R. tracks.
Do.....	Third street west.....	Seventh street west.....	56	*7, 165						
Do.....	Seventh street west.....	Thirteenth street west.....	35	9, 067						
Do.....	Thirteenth street west.....	Fourteenth street west.....	40	2, 144						
Do.....	Fourteenth street west.....	Fifteenth street west.....	56	*1, 948						Cobble bet. R. R. tracks.
Do.....	Fifteenth street west.....	Fifteen-and-a-half street west.	56	1, 729						15th to 17th street, cobble bet. R. R. tracks.
Do.....	Vermont avenue.....	Nineteenth street west.....	56	*8, 328						
Do.....	Pennsylvania avenue.....	Twenty-second street west.	32	6, 493						
Do.....	Twenty-second street west.	Twenty-seventh street west.	32							
H street south.....	South Capitol.....	Water street.....	35	*6, 405						Gravel from North Capitol to 1st street east and from 7th to Boundary street.
I street north.....	North Capitol.....	Boundary.....	35		*1, 581					O. c. walk, curb, and gutter, 3d to 5th and 7th to 11th st.
I street south.....	South Capitol.....	Georgia avenue.....	35							
I street north.....	North Capitol.....	New Jersey avenue.....	35	4, 557						
Do.....	New Jersey avenue.....	Massachusetts avenue.....	35	*5, 804						
Do.....	Fifth street west.....	Eighth street west.....	32	*4, 210						
Do.....	Eighth street west.....	Ninth street west.....	32	*755						
Do.....	Ninth street west.....	Tenth street west.....	32	*2, 090						
Do.....	Tenth street west.....	Eleventh street west.....	32	*813						
Do.....	Eleventh street west.....	Fifteenth street west.....	40	8, 332						
Do.....	Fifteenth street west.....	Vermont avenue.....	56 }							
Do.....	Vermont avenue.....	Seventeenth street west.	40 }	8, 332						
Do.....	Seventeenth street west.	Eighteenth street west.....	40	*2, 672						

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued.

Street.	From—	To—	Carriageway.							Remarks.	
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.		Unimproved.
			Feet.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	
I street north	Eighteenth street west.	Nineteenth street west.	40								O. c. walk, curb, and gutter, 4½ to 7th street.
Do.	Nineteenth street west.	Twentieth street west.	40	*5, 536							
Do.	Twentieth street west.	Pennsylvania avenue.	40								
Do.	Pennsylvania avenue.	Twenty-sixth street west.	40								
I street south.	South Capitol.	Water street.	35						13, 832	583	12, 163
K street north	North Capitol.	Seventh street east.	50							19, 556	
Do.	Seventh street east.	Boundary street.	50								8, 378
Do.	North Capitol.	Third street west.	50					8, 083			
Do.	Third street west.	Seventh street west.	50								
Do.	Seventh street west.	Ninth street west { N. S.	30								
Do.	Ninth street west.	Eighteenth street west. { S. S.	53½								
Do.	Eighteenth street west.	Pennsylvania avenue.	50	27, 551							
Do.	Twenty-fourth street west.	Twenty-eighth street west.	50	*12, 290							
K street south.	South Capitol street.	Canal.	35								
Do.	Canal.	Seventh street east.	60							775	4, 163
Do.	Seventh street east.	Eastern Branch.	35								7, 430
Do.	South Capitol.	Water street.	35								
L street north	North Capitol.	Boundary street.	32								
Do.	do.	New Jersey avenue.	32								
Do.	New Jersey avenue.	Fourth street west.	32	2, 072							
Do.	Fourth street west.	Fifth street west.	32		2, 665						
Do.	Fifth street west.	Sixth street west.	32	1, 425							
Do.	Sixth street west.	Eighth street west.	32	*2, 645							
Do.	Eighth street west.	Eleventh street west.	32	4, 041							
Do.	Eleventh street west.	Twentieth street west.	32	16, 353							
Do.	Twentieth street west.	Twenty-sixth street west.	32	*8, 624							
Do.	Twenty-sixth street west.	Rock Creek.	32							1, 422	

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued.

Street.	From—	To—	Carriageway.						Remarks.	
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.		Gravel.	Unimproved.
R street north.....	Ninth street west.....	Fourteenth street west.	Feet. 32	Sq. yds. *7, 744	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	O. c. walk, curb, and gutter, from 17th to 19th streets.
Do.....	Fourteenth street west.	Sixteenth street west.	32	4, 502						
Do.....	Sixteenth street west.	Boundary.....	32						9, 900	
R street south.....	South Capitol.....	Arsenal.....	30						4, 900	
S street north.....	New Jersey avenue.....	Vermont avenue.....	32					8, 117		
Do.....	Vermont avenue.....	Sixteenth street west.	32	8, 811					9, 000	
Do.....	Sixteenth street west.	Boundary.....	32							
S street south.....	South Capitol.....	Arsenal.....	30						4, 900	
T street north.....	Boundary.....	Ninth street west.	32					2, 667		
Do.....	Ninth street west.	Boundary.....	32					19, 600		
T street south.....	Half street west.....	Arsenal.....	30						3, 620	
U street north.....	Vermont avenue.....	Boundary.....	32						12, 618	
U street south.....	Arsenal.....	Eastern Branch.....	30					4, 200	3, 633	
V street north.....	Vermont avenue.....	Boundary.....	32						13, 335	
V street south.....	Arsenal.....	Eastern Branch.....	30						3, 134	
W street north.....	Boundary.....	Boundary.....	32						10, 310	
Boundary.....	Massachusetts avenue..	Ninth street west.	46					48, 300	3, 000	
Do.....	Seventh street west.....	do.....	45		2, 304					
Do.....	Sixth street west.....	Seventh street west.	46							
Do.....	do.....	Fifteenth street west.	46					3, 019	54, 248	
Connecticut avenue.....	H street north.....	I street north.....	50	2, 210						
Do.....	K street.....	Du Pont Circle.....	50	10, 246			5, 553			
Do.....	Du Pont Circle.....	Boundary.....	50	*13, 725						
Delaware avenue.....	B street north.....	C street north.....	50		*2, 056					
Do.....	C street north.....	Boundary.....	50					5, 000	22, 112	
Do.....	B street south.....	P street south.....	50						32, 775	
Georgia avenue.....	Nineteenth street east.	Eastern Branch.....	50						35, 556	
Indiana avenue.....	First street west.....	Third street west.	120	7, 690						
Kentucky avenue.....	Lincoln Square.....	Eastern Branch.....	50		*3, 345				24, 445	
Louisiana avenue.....	Sixth street west.....	Seventh street west.	60							
Do.....	Pennsylvania avenue..	Ninth street west.	50		*1, 137				50	
Do.....	Ninth street west.....	Tenth street west.	78.5		4, 765					

O. c. walk, curb, and gutter,
from 17th to 19th streets.Gravel from Massachusetts
avenue to R street.

Gravel from 6th to 8th sts.

Cobble bet. R. R. tracks.
Includes Du Pont Circle.

Gravel from C to E streets.

Maine avenue	Third street west	Sixth street west	35	*3,704	27,023	4,635				Cobble bet. R. R. tracks.
Maryland avenue	First street west	Third street west	60			1,611				Cobble bet. R. R. tracks.
Do	Third street west	Seventh street west	60			12,803				3,494 square yards.
Do	Seventh street west	Water street	29-30							Two roadways, one 29 and one 30. This includes the north and south side between 7th and 9th streets.
Do	First street east	Fifteenth street east	60	*11,535			31,000			
Massachusetts avenue	Boundary street	Du Pont Circle	50	5,817						
Do	Du Pont Circle	Scott Square	50	8,348						
Do	Scott Square	Thomas Circle	50	5,550						
Do	Thomas Circle	Ninth street west	50	*12,910						
Do	Seventh street west	New Jersey avenue	50	*11,213						
Do	New Jersey avenue	Eleventh street east	50			2,546				Cobble in R. R. tracks, Fourth to Seventh streets.
Do	Eleventh street east	Nineteenth street east	50				32,225			
Missouri avenue	Third street west	Four-and-a-half street west.	35		*2,562				20,000	
Do	Four-and-a-half street west.	Sixth street west	35							
New Hampshire avenue	Twenty-seventh street west.	G street north	50			2,452				Cobble between R. R. tracks, 933 square yards.
Do	Pennsylvania avenue	do	50						5,000	
Do	do	M street north	50	*6,992		7,967				
Do	M street north	Du Pont Circle	50	*10,047						
Do	Du Pont Circle	Q street north	50	*2,537						
Do	Q street north	Boundary	50							
New Jersey avenue	B street north	D street north	60	5,247	1,177				14,084	7,872
Do	D street north	H street north	60	*14,274		588				
Do	H street north	O street north	50	*10,861						
Do	O street north	Boundary	50			7,000				
Do	B street south	E street south	50		*9,381				*14,826	
Do	E street south	Canal	50		7,519					
Do	Canal	M street south	50				6,868			
Do	M street south	N street south	50					3,112		
New York avenue	Nineteenth street west	Twenty-fourth st. west	50							
Do	Seventeenth street west	Eighteenth street west	50	3,766						
Do	Fourteenth street west	Fifteenth street west	86	3,424		876				
Do	Ninth street west	Fourteenth street west		19,880		3,857				
Do	Seventh street west	North Capitol street	50				25,964			
Do	North Capitol	Boundary	50							
North Carolina avenue	New Jersey avenue	Lincoln Square	50		2,138				7,225	
Do	Lincoln Square	C street south	50						16,862	
Ohio avenue	B street north	Fifteenth street north	60							11,110
Pennsylvania avenue	Rock Creek	Washington Circle	80	11,355						
Do	Washington Circle	Eighteenth street west	80	19,302						
										2,164 square yds. bet. R. R. tracks.
										4,399 sq. yds. asphalt, paved since 1878. Cobble bet. R. R. tracks.
										Cobble bet. R. R. Tracks.

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued

Street.	From—	To—	Carriageway.							Remarks.
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.		Unimproved.
Pennsylvania avenue.....	Eighteenth street west	Fifteenth street west	Feet. 85	Sq. yds. *15,959	Sq. yds. 12,816	Sq. yds.	Sq. yds. 3,116	Sq. yds.	Sq. yds.	Cobble bet. R. R. tracks.
Do.....	Fifteenth street west	First street west	102-5	78,521	12,816	.....	4,417	.....	.....	Granite bet. R. R. tracks.
Do.....	First street east	Eighth street east	.....	29,204	.....	.....	.....	.....	.....	14,427 sq. yards paved since 1878. Cobble bet. R. R. tracks. 1 roadway, 50 ft. to 2d st., 2 of 38 ft. each to Eighth street.
Do.....	Eighth street east	Eleventh street east	50	*5,356	.....	.....	3,089	.....	.....	2 roadways, 38 feet each.
Do.....	Eleventh street east	Eastern Branch	50	.....	.....	.....	.....	.....	17,775	O. c. walk, curb, and gutter from 11th to 14th streets.
Rhode Island.....	Connecticut avenue	Scott Square	50	5,410	.....	.....	.....	.....	.....	Gravel from Fifth street to Boundary street.
Do.....	Scott Square	Iowa Circle	50	*7,704	.....	.....	.....	.....	3,000	
Do.....	Iowa Circle	Boundary street	50	*17,224	.....	.....	.....	.....	.....	
South Carolina.....	Second street east	Third street east	50	.....	.....	.....	.....	.....	.....	
Do.....	Third street east	Eleventh street east	50	.....	.....	877	.....	.....	*12,325	
Do.....	Eleventh street east	Massachusetts avenue	50	.....	.....	.....	.....	.....	.....	
Tennessee avenue.....	Lincoln Square	Fifteenth street east	50	.....	.....	.....	.....	.....	.....	
Virginia avenue.....	South Capitol	Eleventh street east	50	.....	.....	.....	.....	.....	2,325	
Do.....	Eleventh street east	Eastern Branch	50						23,075	
Do.....	South Capitol	Seventh street west	50		*1,722		2,478			
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Do.	Thomas Circle.	Iowa Circle.	50	*6, 149	5, 576	6, 424	Asphalt pavement to R. st.
Do.	Iowa Circle.	Boundary	50	*6, 103			Cobble bet. R. R. tracks, 382
City Hall space	Third street west.	Sixth street west.	60	*4, 766	1, 711		sq. yds. of asphalt blocks.
				*3, 214			Asphalt blocks.
Intersection of Louisiana avenue, Seventh, and C streets.	Tenth street west.	Twelfth street west.	50		3, 460		
Intersection of Louisiana and Ohio avenues.	Seventh street west.	Ninth street west.		3, 899			Cobble bet. R. R. tracks.
Mount Vernon Place.	Intersection	Fourteenth and M sts.	50	*6, 000	835		Do.
Thomas Circle.	do.	Thirteenth and P streets	36	5, 594	718		
Iowa Circle.	do.	Sixteenth and N streets	65	12, 560			
Scott Square.	do.	Nineteenth and P streets	45	5, 240	1, 228		Do.
Du Pont Circle.	do.	Twenty-third and K sts.	56	6, 083	1, 100		Do.
Washington Circle.	do.	Ninth and C streets.		600			
Opera Square.	do.	Second street northeast.	30			2, 143	
California street.	First street northeast.	Seventh street northeast.	20			1, 367	
Callan street.	Sixth street northeast.	Second street southeast.	30			2, 030	
Carroll street.	First street southeast.	Sixteenth street north-west.	24			1, 384	
Caroline street.	Fifteenth street north-west.	Nineteenth street north-west.	30			1, 570	
Cedar street.	Eighteenth street north-west.	Second street northeast.	32			2, 285	
Chicago street.	First street northeast.	Q street northwest.	30	2, 886			
Columbia street.	O street northwest.	Fourteenth street north-west.	30	2, 067			
Corcoran street.	Thirteenth street north-west.	Seventeenth street north-west.	24	2, 129			
Do.	Fourteenth street north-west.	Boundary.		*1, 297			
Cleveland avenue.	W street.	North Capitol street.	22	*1, 967			
Defrees street.	First street northwest.	Connecticut avenue.	40	2, 493			
De Sales street.	Seventeenth street north-west.	Twenty-first street north-west.	20			1, 038	
Elldridge street.	Twentieth street north-west.	Fifth street west.	30			1, 667	
Franklin street.	New Jersey avenue.	Tenth street west.	30			1, 633	
French street.	Ninth street west.	do.	24	1, 435			
Grant Place.	do.	Fifteenth street west.	21-5	1, 248			
Highland Terrace.	Fourteenth street west.	Twenty-first street west.	27	*1, 552			
Hillyer Place.	Twentieth street west.	New Jersey avenue.	35			2, 131	
Ivy Place.	South Capitol street.	First street east.	20		1, 738		
Jackson street.	North Capitol street.	Thirteenth street east.	20			1, 151	
James street.	Twelfth street northeast.	Nineteenth street west.	27	1, 393		1, 700	
Jefferson Place.	Connecticut avenue.	S street northwest.	30			1, 500	
Johnson Place.	R street northwest.	Q street northwest.	30				
Kingman Court.	P street northwest.	New York avenue.	32			1, 760	
Kirby street.	New York avenue.	Nineteenth street north-west.	30			1, 570	
Lawrence street.	Eighteenth street north-west.	N street northwest.	30			1, 666	
Madison street.	M street northwest.	R street northwest.	26			2, 600	
Marion street.	P street northwest.						

Character and extent of street pavements, July 1, 1887—Continued.

WASHINGTON—Continued.

Street.	From—	To—	Carriageway.							Remarks.
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.		Unimproved.
Monroe street	Sixteenth street north-west.	Seventeenth street north-west.	Feet. 24		Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.	Sq. yds.
McLean avenue	Third street	Four-and-a-half street southwest.		*2,127						1,387
Myrtle street	North Capitol street	First street northeast	20							
Oregon street	Eighteenth street north-west.	Nineteenth street north-west.	30						1,738	2,433
Park street	Eleventh street north-east.	Twelfth street northeast	30						1,110	
Pierce Place	Fifteenth street north-west.	Sixteenth street north-west.	30						1,715	
Pierce street	Fourteenth street north-west.	Fifteenth street north-west.	30	2,154						
Ridge street	Fourth street northwest.	Fifth street northwest.	32							
Riggs street	Thirteenth street north-west.	Fourteenth street north-west.	30	*2,030					2,674	
Sansom street	Fourteenth street north-west.	Seventeenth street north-west.	24	2,674						1,440
School street	Four-and-a-half street southwest.	Sixth street southwest.	34				2,346			
Sherman street	Eighteenth street north-west.	Nineteenth street north-west.	20						1,046	
Sunderland Place.	New Hampshire avenue.	do	30	*1,185						
Union street	M street south	O street south	40				5,333			
Washington street.	Fourth street west	Fifth street west	35						3,850	
Wallach Place	Thirteenth street west.	Fourteenth street west.	30	*2,075						
Warner street	Fifth street west	New Jersey avenue	30						1,600	
Water street.	Seventh street west	Twelfth street west.	50		16,858					
Do	Twelfth street west	Thirteen-and-a-half str't west.	50		*2,827					2,729
Do	Seventh street west	Sixth street west	50		*6,306					
Do	Sixth street west.	O street south	50		3,359					
Westminster street	Ninth street west.	Tenth street northwest.	30							1,777

GEORGETOWN.

M street.....	Rock Creek	Thirty-first street.....	50	9, 026	.....	2, 833	.....	.....	Cobble between R. R. tracks.
Do.....	Thirty-first street.....	Thirty-sixth street.....	50	.....	13, 684	1, 322	.....	.....	Do.
Water street.....	Rock Creek	Aqueduct	50	.....	18, 021	.....	.....	.....	
Olive street.....	do.....	Twenty-eighth street.....	44	.....	.....	.....	.....	1, 566	
Do.....	Twenty-eighth street.....	Thirtieth street.....	30	.....	.....	1, 946	.....	.....	
Prospect street.....	Thirty-second street.....	Potomac.....	30	.....	.....	2, 504	.....	.....	
Do.....	Potomac street.....	Thirty-sixth street.....	30	.....	.....	.....	.....	4, 339	O. c. walk, curb, and gutter.
N street.....	Rock Creek	Twenty-eighth street.....	30	.....	.....	959	.....	870	Cobble from 27th to 28th st.
Do.....	Twenty-eighth street.....	Thirty-second street.....	30	*5, 505	.....	.....	.....	.....	
Do.....	Thirty-second street.....	Thirty-fifth street.....	30	*5, 689	.....	.....	.....	.....	
Do.....	Thirty-fifth street.....	Thirty-seventh street.....	30	.....	*4, 435	780	.....	.....	O. c. walk, curb, and gutter.
O street.....	Thirty-second street.....	Thirty-fifth street.....	30	.....	.....	.....	.....	2, 283	Cobble between R. R. tracks.
Do.....	Thirty-fifth street.....	Thirty-seventh street.....	30	.....	.....	.....	.....	.....	
Do.....	Rock Creek	Twenty-seventh street.....	30	.....	.....	.....	.....	1, 166	
Do.....	Twenty-seventh street.....	Twenty-ninth street.....	30	.....	.....	.....	.....	2, 000	
Do.....	Twenty-ninth street.....	Thirty-second street.....	30	*4, 829	.....	.....	.....	.....	
Dunbarton street.....	do.....	Thirty-first street.....	30	.....	.....	444	.....	2, 072	Cobble between R. R. tracks.
Do.....	Thirty-first street.....	Thirty-second street.....	30	.....	.....	1, 758	.....	.....	300 sq. yds. bet. R. R. tracks.
Do.....	Thirty-second street.....	Twenty-eighth street.....	30	.....	.....	.....	.....	6, 083	
Do.....	Twenty-eighth street.....	Rock Creek	30	.....	.....	.....	.....	.....	
P street.....	Thirty-second street.....	Thirty-seventh street.....	30	.....	*4, 350	765	.....	.....	765 sq. yds. bet. R. R. tracks.
Do.....	Rock Creek	Twenty-eighth street.....	40 }	.....	.....	.....	.....	.....	Cobble between R. R. tracks.
Do.....	Twenty-eighth street.....	Thirty-second street.....	30 }	.....	*10, 880	4, 113	.....	.....	
Q street.....	Thirty-second street.....	Thirty-fifth street.....	30	.....	.....	.....	.....	.....	O. c. walk, curb, and gutter, from 32d to 35th street.
Do.....	do.....	Twenty-eighth street.....	30	.....	.....	.....	.....	.....	Cobble between R. R. tracks.
Do.....	do.....	Water street.....	30	.....	.....	.....	.....	.....	O. c. walk, curb, and gutter, from 32d to 34th street.
R street.....	do.....	Thirty-fifth street.....	30	.....	.....	.....	.....	.....	
Do.....	do.....	do.....	30	.....	.....	.....	.....	.....	
S street.....	Thirty-second street.....	do.....	30	.....	.....	.....	.....	.....	
T street.....	Thirty-third street.....	do.....	30	.....	.....	.....	.....	.....	
V street.....	do.....	do.....	30	.....	.....	.....	.....	.....	
Do.....	do.....	Twenty-eighth street.....	30	.....	.....	.....	.....	9, 000	
Twenty-seventh street.....	M street.....	P street.....	30	.....	.....	.....	.....	.....	
Twenty-eighth street.....	do.....	do.....	30	.....	.....	5, 479	.....	.....	
Do.....	P street.....	U street.....	30	.....	.....	.....	.....	.....	
Do.....	M street.....	Water street.....	30	*2, 940	.....	2, 919	.....	4, 610	
Do.....	do.....	P street.....	30	.....	*1, 585	.....	.....	.....	
Do.....	P street.....	U street.....	30	.....	.....	.....	.....	.....	
Thirtieth street.....	M street.....	Water street.....	30	.....	.....	.....	.....	.....	
Do.....	do.....	N street.....	30	.....	*2, 121	2, 733	.....	.....	O. c. walk, curb, and gutter.
Do.....	do.....	P street.....	30	.....	.....	.....	.....	.....	Do.
Do.....	N street.....	Q street.....	30	*2, 932	.....	.....	*1, 310	.....	
Do.....	P street.....	U street.....	30	.....	.....	.....	.....	.....	
Do.....	Q street.....	U street.....	30	.....	*2, 746	.....	.....	.....	Do.
Do.....	M street.....	Water street.....	32	.....	.....	2, 839	.....	.....	
Jefferson street.....	do.....	do.....	32	.....	.....	.....	.....	.....	

Character and extent of street pavements, July 1, 1887—Continued.

GEORGETOWN—Continued.

Street.	From—	To—	Carrissageway.							Remarks.
			Width.	Asphalt or concrete.	Granite.	Wood.	Cobble and blue rock.	Macadam.	Gravel.	Unimproved.
Thirty-first street.	do	do	Feet. 30	Sq. yds. *3,933	Sq. yds. *1,742	Sq. yds.	Sq. yds. 3,034	Sq. yds.	Sq. yds.	
Do.	do	P street	30							
Do.	P street	U street	30	*1,832	*3,285					Do.
Thirty-second street.	M street	Water street	30				3,540			
Do.	do	P street	35		*6,202					
Do.	P street	U street	35				6,416			
Potomac street	M street	Canal	30				1,071			
Do.	do	O street	30	*1,840	*1,053				1,750	Do.
Thirty-third street.	do	N street	30							
Do.	N street	P street	30	*2,050						O. c. walk, curb, and gutter on one side.
Do.	P street	Thirty-second street	30							
Do.	M street	Canal	30				1,071			
Thirty-fourth street	Canal	Thirty-second street	30							
Thirty-fifth street	M street	Prospect street	30				975			
Do.	Prospect street	U street	30	*2,929						
Thirty-sixth street	do	P street	30							
Thirty-seventh street	M street	do	30							
Mill street	P street	North street	30					1,500		East side improved.
Grace street	Potomac street	Thirty-second street	30		1,328					
North street	P street	Mill street	20							

SUMMARY STATEMENT.

Carriage-way.	Length.	Square yards.	Miles.
	<i>Feet.</i>		
Sheet asphalt.....	168, 115	751, 118	31.84
Coal-tar distillate.....	176, 352	783, 245	33.4
Asphalt block.....	23, 232	95, 889	4.4
Granite.....	113, 520	534, 718	21.5
Wood.....	4, 066	18, 403	0.77
Cobble and blue rock.....	67, 484	490, 546	12.78
Macadam.....	43, 243	225, 009	8.19
Gravel.....	192, 565	726, 998	36.66
Total improved.....	789, 577	3, 625, 926	149.54
Unimproved.....	443, 942	1, 539, 050	84.08
	1, 233, 519	5, 164, 976	233.62

APPENDIX No. 28.

Tabulated statement showing the estimates

	1880.		1881.
	Estimated.	Appropriated.	Estimated.
<i>Salaries and contingent.</i>			
Executive office	\$21,000.00	\$21,000.00	\$22,140.00
Market masters			
Assessor's office	23,500.00	20,350.00	27,800.00
Collector's office	15,000.00	13,800.00	11,500.00
Auditor's office	19,000.00	19,000.00	13,000.00
Attorney's office	10,000.00	9,000.00	9,000.00
Sinking fund	2,700.00	2,700.00	2,700.00
Coroner's office	2,500.00	2,500.00	2,050.00
Engineer's office	86,735.00	81,700.00	73,686.00
Miscellaneous expenses, District office	3,000.00	3,000.00	3,500.00
Expenses of assessment of real property			
Total salaries and contingent	183,435.00	173,050.00	165,376.00
<i>Improvements and repairs.</i>			
Repairs to concrete pavement	135,000.00	100,000.00	75,000.00
Material for permit work	15,000.00	15,000.00	20,000.00
Continuing surveys of the District			10,000.00
For sewers ¹		115,000.00	161,000.00
Work on streets and avenues	560,000.00	250,000.00	431,600.00
Total improvements and repairs	710,000.00	480,000.00	697,600.00
Constructing and maintaining and repairing bridges	9,200.00	10,200.00	11,500.00
Washington Aqueduct	20,000.00	20,000.00	20,000.00
Redemption of certificates of indebtedness			
Sewer debt			
	29,200.00	30,200.00	31,500.00
<i>Reformatories and prisons.</i>			
Washington Asylum	45,000.00	45,100.00	38,200.00
Reform School	20,000.00	20,000.00	25,000.00
Georgetown almshouse	1,800.00	1,800.00	1,800.00
Transportation of paupers, etc.	2,500.00	2,500.00	2,500.00
Industrial Home School		5,000.00	
Total reformatories and prisons	69,300.00	74,460.00	67,500.00
Support of indigent insane	17,000.00	17,000.00	20,484.80
<i>Charities.</i>			
Relief of the poor	15,000.00	15,000.00	15,000.00
Columbia Hospital for Women		12,000.00	
Women's Christian Association		5,000.00	
Association for Destitute Colored Women and Children		6,500.00	
Association for Destitute Colored Women and Children (building)			
Children's Hospital		5,000.00	
Little Sisters of the Poor			
German Orphan Asylum			
Howard University		10,000.00	
St. Ann's Infant Asylum		5,000.00	
Church Orphanage			
Homeopathic Hospital building			
St. Rose Industrial School (buildings)			
House of Good Shepherd (buildings)			
Association for Works of Mercy (buildings)			
Washington Hospital for Foundlings (complete building)			
Total for charities	15,000.00	58,500.00	15,000.00
<i>For streets.</i>			
Sweeping, cleaning, etc., streets, avenues, and alleys	42,600.00	42,600.00	43,600.00
Current repair of streets, avenues, and alleys ²	75,500.00	75,500.00	105,000.00
Constructing county roads and suburban streets			
Current work on county roads, etc. ³			
Cleaning sewers and basins ⁴		10,000.00	3,000.00
For preparation of plans for sewage disposal			
For replacing obstructed sewers			

¹ Eighty-five thousand dollars not expended.² Includes macadam repairs whenever appropriated.

APPENDIX No. 28.

and appropriations from 1880 to 1887.

1881.	1882.		1883.		1884.	
Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated
\$22,140.00	\$22,140.00	\$22,140.00	\$23,314.04	\$21,200.11	\$21,600.11	\$21,101.50
27,290.00	27,000.00	17,500.00	23,000.00	17,500.00	19,400.00	12,600.00
11,500.00	13,900.00	10,000.00	13,500.00	13,000.00	13,500.00	17,300.00
13,000.00	12,800.00	12,800.00	12,900.00	12,900.00	12,750.00	15,200.00
9,000.00	9,000.00	8,812.00	9,000.00	8,812.00	8,812.00	8,812.00
2,700.00	2,700.00	2,700.00	3,700.00	2,700.00	2,700.00	2,700.00
2,450.00	2,800.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
72,306.00	68,925.00	68,625.00	69,675.00	67,225.00	69,688.00	61,550.00
3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00	5,000.00
166,796.00	162,765.00	148,577.00	161,089.04	149,337.11	154,450.11	146,763.50
75,000.00	75,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	35,000.00	30,000.00
5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
161,600.00	132,000.00	72,000.00	155,000.00	105,000.00	98,000.00	95,000.00
300,000.00	320,364.03	300,000.00	273,000.00	300,000.00	315,685.61	350,000.00
561,600.00	552,364.03	447,000.00	503,000.00	480,000.00	503,685.61	530,000.00
11,500.00	2,500.00	2,500.00	12,700.00	12,700.00	3,500.00	3,500.00
20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
31,500.00	22,500.00	22,500.00	32,700.00	32,700.00	23,500.00	23,500.00
48,040.00	53,200.00	49,140.00	54,640.00	46,820.00	52,364.00	46,320.00
25,000.00	25,000.00	31,614.00	38,674.00	37,950.00	36,700.00	32,950.00
1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00
3,500.00	3,500.00	3,000.00	3,500.00	3,000.00	3,000.00	3,000.00
10,000.00	5,000.00	10,500.00	5,000.00	5,000.00	5,000.00	10,000.00
88,340.00	88,500.00	96,054.00	103,614.00	94,570.00	98,864.00	94,070.00
37,000.00	37,000.00	40,000.00	40,000.00	43,200.00	.....	46,700.00
10,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
18,000.00	15,000.00	15,800.00	15,000.00	15,000.00	15,000.00	15,000.00
5,000.00	.....	5,000.00	.....	5,000.00	.....	5,000.00
6,500.00	.....	6,500.00	.....	6,500.00	.....	7,000.00
5,000.00	5,000.00	5,000.00	.....	5,000.00	.....	20,000.00
5,000.00	.....	.....	.....	.....	.....	5,000.00
10,000.00	.....	.....	.....	5,000.00	.....	.....
5,000.00	5,000.00	5,000.00	.....	5,000.00	.....	5,000.00
.....	.....	.....	.....	.....	.....	1,500.00
.....						
.....						
.....						
64,500.00	40,000.00	52,300.00	30,000.00	56,500.00	30,000.00	73,500.00
43,600.00	36,500.00	36,500.00	40,500.00	40,500.00	55,000.00	47,500.00
85,000.00	45,000.00	25,000.00	30,000.00	30,000.00	30,000.00	25,000.00
.....	25,000.00	20,000.00	41,732.00	31,000.00	25,000.00	20,000.00
3,000.00	43,000.00	25,000.00	28,000.00	28,000.00	23,000.00	23,000.00

* Includes \$16,732 for land and improvement of Fourteenth street extended.

* Includes \$10,000 for dredging James Creek Canal.

716 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Tabulated statement showing the estimates and

	1886.		1881.
	Estimated.	Appropriated.	Estimated.
<i>For streets—Continued.</i>			
For constructing suburban sewers			
Repairs to pumps	\$2, 500. 00	\$2, 500. 00	\$3, 000. 00
Parking commission	13, 400. 00	13, 400. 00	13, 400. 00
Lighting streets, avenues, and alleys	140, 000. 00	130, 370. 00	123, 470. 00
Opening and extending suburban streets			
Total streets	274, 000. 00	274, 370. 00	291, 470. 00
Metropolitan police	300, 000. 00	305, 240. 00	300, 000. 00
Fire department	115, 000. 00	105, 700. 00	105, 000. 00
Telegraph and telephone service			
Courts	18, 500. 00	18, 500. 00	18, 938. 00
	433, 500. 00	429, 440. 00	423, 938. 00
<i>For public schools.</i>			
For tools and machinery for industrial instruction			
For officers	311, 412. 63	311, 412. 63	308, 000. 00
For teachers			
For eight supervising principals			
For night schools			
For contingent expenses, night schools			
For janitors, care of building	30, 000. 00	30, 000. 00	35, 000. 00
For rent of school buildings	12, 000. 00	12, 000. 00	12, 000. 00
For fuel	25, 000. 00	25, 000. 00	20, 000. 00
For repairs and improvements	21, 587. 37	21, 587. 37	25, 000. 00
For contingent expenses, furniture, etc		75, 000. 00	
For purchase of sites, new buildings, and furniture			
For sanitary improvements in old buildings			
Total public schools	400, 000. 00	475, 000. 00	400, 000. 00
<i>Miscellaneous expenses.</i>			
Repairs and replacement of hay scales	200. 00	200. 00	200. 00
Rent of District offices	6, 000. 00	6, 000. 00	3, 600. 00
General advertising	7, 000. 00	7, 000. 00	7, 000. 00
Books for Register of Wills, printing, etc	6, 500. 00	6, 500. 00	6, 798. 07
Total miscellaneous	19, 700. 00	19, 700. 00	17, 598. 07
Interest and sinking fund	1, 216, 124. 12	1, 155, 583. 55	1, 155, 583. 55
General contingent fund for emergencies		20, 000. 00	50, 000. 00
Municipal buildings			
For the payment of judgments against District of Columbia			
Health department	32, 355. 00	34, 755. 00	36, 548. 34
Total	1, 248, 479. 12	1, 210, 338. 55	1, 242, 131. 89
Rent of market site and property yard		1, 175. 00	
Revision of laws		5, 000. 00	
Purchase of police-court building			
Removal of bodies from Holmead Cemetery			
Condemnation of land for alleys, streets, and roads			
Payment of Linthicum loan (school)			
Repair of Georgetown market house			
Payment of referees of Court of Claims, necessary expenses			
Total		6, 175. 00	
<i>Water department.</i>			
Salaries and contingent expenses			
For engineers, fireman, pipe distribution, etc			
Interest and sinking fund on water-stock bonds			
Interest and sinking fund on account of water supply			
Purchase of pump-house on U street northwest			
Water main to Anacostia, D. C.			
Water main to Mount Pleasant			
Total water department			
For two pumping engines, etc			
For improvement and protection of harbor, etc			

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 717

appropriations from 1880 to 1887—Continued.

1881.	1882.		1883.		1884.	
Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated
\$3,000.00	\$3,000.00	\$3,000.00	\$3,500.00	\$3,000.00	\$3,500.00	\$3,000.00
13,400.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
123,400.00	124,900.00	111,325.00	108,150.00	107,650.00	108,250.00	95,380.00
271,400.00	295,400.00	238,825.00	269,882.00	258,150.00	262,750.00	231,880.00
300,120.00	299,085.00	299,025.00	311,416.00	301,980.00	307,020.00	301,560.00
104,240.00	105,240.00	105,240.00	104,640.00	99,140.00	103,040.00	101,060.00
			18,730.00	17,000.00	13,190.00	12,440.00
18,818.00	16,818.00	16,818.00	15,418.00	15,418.00	15,418.00	15,418.00
423,178.00	421,143.00	421,083.00	450,204.00	433,538.00	438,668.00	430,478.00
	6,900.00	6,950.00	6,950.00	7,000.00	7,250.00	7,050.00
327,834.80	314,335.00	311,860.00	334,685.00	335,825.00	366,750.00	349,125.00
	26,265.00	22,170.00	24,656.00	25,000.00	26,600.00	23,500.00
30,000.00	30,000.00	23,000.00	22,000.00	15,200.00		8,000.00
12,000.00	12,000.00	11,000.00	15,000.00	15,000.00	175,000.00	18,000.00
15,000.00	15,000.00	10,000.00	32,000.00	15,000.00		27,000.00
20,000.00	20,000.00	15,000.00	15,000.00	15,000.00		15,000.00
100,000.00		182,630.47	100,000.00	178,868.00		96,000.00
504,834.80	424,500.00	582,610.47	550,291.00	606,893.00	555,600.00	543,675.00
200.00	500.00	500.00	500.00	500.00	500.00	500.00
3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00
7,000.00	7,000.00	5,000.00	5,000.00	5,000.00	5,000.00	4,000.00
6,798.07	5,000.00	3,000.00	3,000.00	3,000.00	3,000.00	2,500.00
17,598.07	16,100.00	12,100.00	12,100.00	12,100.00	12,100.00	10,600.00
1,155,583.55	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97
20,000.00	27,000.00	15,000.00	17,000.00	10,000.00	10,000.00	10,000.00
2,704.20	6,000.00	15,000.00	25,000.00	25,000.00		
35,565.00	44,200.00	41,140.00	41,140.00	42,580.00	36,000.00	42,780.00
1,213,852.75	1,291,147.97	1,285,087.97	1,297,087.97	1,291,527.97	1,259,947.97	1,266,727.97
20,000.00						
2,000.00		1,000.00				
27,497.73				1,000.00		
		40,000.00				
		3,000.00				
		2,000.00				
49,497.73		46,000.00		1,000.00		
			14,139.00	11,730.00	11,842.00	11,742.00
			52,301.50	55,101.50	50,000.00	51,251.50
			44,610.00	44,610.00	44,610.00	44,610.00
			111,050.50	111,450.50	106,452.00	107,603.50

¹ Includes fuel, furniture, stationery, repairs etc.

718 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Tabulated statement showing the estimates and

	1885.	
	Estimated.	Appropriated.
<i>Salaries and contingent.</i>		
Executive office.....	\$21,581.50	\$21,244.00
Market masters.....		
Assessor's office.....	13,500.00	13,600.00
Collector's office.....	17,300.00	17,300.00
Auditor's office.....	16,500.00	16,643.00
Attorney's office.....	8,792.00	8,612.00
Sinking fund.....	2,700.00	2,700.00
Coroner's office.....	2,500.00	2,500.00
Engineer's office.....	66,650.00	64,750.00
Miscellaneous expenses, District office.....	5,000.00	5,000.00
Expenses of assessment of real property.....		
Total salaries and contingent.....	154,523.50	152,349.00
<i>Improvements and repairs.</i>		
Repairs to concrete pavement.....	50,000.00	50,000.00
Material for permit work.....	50,000.00	50,000.00
Continuing surveys of the District.....	5,000.00	5,000.00
For sewers ¹	100,000.00	100,000.00
Work on streets and avenues.....	300,000.00	263,000.00
Total improvements and repairs.....	505,000.00	468,000.00
Constructing and maintaining and repairing bridges.....	2,500.00	2,500.00
Washington Aqueduct.....	22,000.00	20,000.00
Redemption of certificates of indebtedness.....		
Sewer debt.....		
	24,500.00	22,500.00
<i>Reformatories and prisons.</i>		
Washington Asylum.....	52,735.00	52,310.00
Reform School.....	32,800.00	32,916.00
Georgetown almshouse.....	1,800.00	1,800.00
Transportation of paupers, etc.....	3,000.00	3,000.00
Industrial Home School.....	15,000.00	12,500.00
Total reformatories and prisons.....	105,335.00	102,526.00
Support of indigent insane.....	46,700.00	50,436.00
<i>Charities.</i>		
Relief of the poor.....	15,000.00	15,000.00
Columbia Hospital for Women.....	15,000.00	15,000.00
Women's Christian Association.....		5,000.00
Association for Destitute Colored Women and Children.....		7,000.00
Association for Destitute Colored Women and Children (building).....		2,000.00
Children's Hospital.....		5,000.00
Little Sisters of the Poor.....		
German Orphan Asylum.....		
Howard University.....		
St. Ann's Infant Asylum.....		
Church Orphanage.....		5,000.00
Homeopathic Hospital building.....		1,500.00
St. Rose Industrial School (buildings).....		
House of Good Shepherd (buildings).....		
Association for Works of Mercy (buildings).....		
Washington Hospital for Foundlings (complete building).....		
Total for charities.....	30,000.00	55,500.00
<i>For streets.</i>		
Sweeping, cleaning, etc., streets, avenues, and alleys.....	50,000.00	50,000.00
Current repair of streets, avenues, and alleys ²	25,000.00	25,000.00
Constructing county roads and suburban streets.....		
Current work on county roads, etc ³	35,000.00	25,000.00
Cleaning sewers and basins ⁴	28,000.00	25,000.00
For preparation of plans for sewage disposal.....		
For replacing obstructed sewers.....		
For constructing suburban sewers.....		
Repairs to pumps.....	2,000.00	3,000.00

¹ Eighty-five thousand dollars not expended.

² Includes macadam repairs whenever appropriated.

appropriations from 1880 to 1887—Continued.

1886.		1887.		1888.		1889.
Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.
\$21,244.00	\$21,244.00	\$21,844.00	\$22,444.00	\$22,784.00	\$22,944.00	\$23,284.00
13,600.00	13,600.00	15,600.00	14,600.00	16,500.00	4,100.00	5,350.00
17,300.00	17,300.00	18,500.00	19,200.00	16,600.00	16,300.00	16,900.00
16,500.00	16,500.00	16,500.00	16,500.00	16,900.00	16,500.00	17,800.00
8,712.00	8,712.00	9,000.00	8,700.00	9,800.00	9,000.00	10,700.00
2,700.00	2,700.00	3,100.00	2,700.00	2,700.00	2,700.00	3,300.00
2,500.00	2,500.00	2,500.00	2,500.00	2,650.00	2,650.00	2,800.00
65,490.00	65,690.00	75,450.00	65,690.00	64,820.00	61,190.00	95,235.00
5,000.00	5,000.00	5,000.00	5,000.00	7,500.00	6,700.00	7,000.00
15,000.00	15,000.00					
153,046.00	168,246.00	167,494.00	157,334.00	160,254.00	158,584.00	198,919.00
50,000.00	50,000.00	75,000.00	65,000.00	90,000.00	80,000.00	100,000.00
50,000.00	50,000.00	50,000.00	60,000.00	90,000.00	90,000.00	100,000.00
5,000.00	5,000.00	5,000.00	4,000.00	15,000.00	4,000.00	10,000.00
25,000.00	25,000.00	75,000.00	45,000.00	105,000.00	50,000.00	75,000.00
325,000.00	265,000.00	325,000.00	266,000.00	405,000.00	360,000.00	805,919.03
455,000.00	395,000.00	530,000.00	440,000.00	705,000.00	574,000.00	1,090,919.03
8,000.00	9,380.00	7,000.00	12,660.00	13,500.00	12,000.00	27,000.00
20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
	366.96					
50,000.00						
78,000.00	29,746.96	27,000.00	32,660.00	33,500.00	32,000.00	47,000.00
69,680.00	69,680.00	56,690.00	57,382.00	59,555.00	53,305.00	61,655.00
36,640.00	36,616.00	36,676.00	36,616.00	37,976.00	47,170.00	41,946.00
1,800.00	1,800.00	1,800.00	1,800.00	1,800.00		
4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
13,500.00	12,000.00	12,000.00	13,500.00	10,000.00	10,000.00	
125,620.00	124,096.00	111,166.00	113,298.00	113,331.00	114,475.00	110,601.00
51,446.00	53,462.00	53,462.00	75,132.00	75,132.00	75,132.00	79,185.00
15,000.00	15,000.00	15,000.00	15,000.00		15,000.00	15,000.00
15,000.00	15,000.00	15,000.00	15,000.00		15,000.00	
	5,000.00		4,000.00		4,000.00	
	6,500.00		6,500.00		7,000.00	
	18,000.00		2,500.00		5,000.00	
	5,000.00		5,000.00			
	5,000.00		5,000.00		6,000.00	
	1,500.00		1,500.00		7,500.00	
	15,000.00		5,000.00		2,000.00	
			5,000.00		5,000.00	
			5,000.00		3,000.00	
			5,000.00		3,600.00	
			3,500.00		7,000.00	
30,000.00	86,000.00	30,000.00	78,000.00		80,100.00	15,000.00
55,000.00	55,000.00	60,000.00	58,000.00	70,000.00	65,000.00	85,000.00
25,000.00	25,000.00	30,000.00	25,000.00	35,000.00	30,000.00	50,000.00
40,000.00	40,000.00	45,000.00	40,000.00	50,000.00	50,000.00	78,000.00
25,000.00	25,000.00	30,000.00	25,000.00	35,000.00	25,000.00	54,000.00
					30,000.00	35,000.00
						5,000.00
					7,500.00	15,000.00
					35,000.00	35,000.00
3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	5,000.00

* Includes \$16,732 for land and improvement of Fourteenth street extended.

* Includes \$10,000 for dredging James Creek Canal.

720 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Tabulated statement showing the estimates and

	1885.	
	Estimated.	Appropriated.
<i>For streets—Continued.</i>		
Parking commission.....	\$18,000.00	\$18,000.00
Lighting streets, avenues, and alleys.....	109,000.00	95,380.00
Opening and extending suburban streets.....		
Total streets.....	267,000.00	241,380.00
Metropolitan police.....	331,000.00	337,100.00
Fire department.....	116,440.00	119,230.00
Telegraph and telephone service.....	20,440.00	25,440.00
Courts.....	16,218.00	16,218.00
	484,098.00	497,988.00
<i>For public schools.</i>		
For tools and machinery for industrial instruction.....		
For officers.....	7,250.00	7,250.00
For teachers.....	371,850.00	371,850.00
For eight supervising principals.....		
For night schools.....		
For contingent expenses, night schools.....		
For janitors, care of building.....	27,780.00	28,780.00
For rent of school buildings.....	6,460.00	6,460.00
For fuel.....	20,000.00	18,000.00
For repairs and improvements.....	25,000.00	20,000.00
For contingent expenses, furniture, etc. ¹	20,000.00	20,000.00
For purchase of sites, new buildings, and furniture.....	66,000.00	69,500.00
For sanitary improvements in old buildings.....		
Total public schools.....	544,340.00	541,840.00
<i>Miscellaneous expenses.</i>		
Repairs and replacement of hay scales.....	500.00	500.00
Rent of District offices.....	3,600.00	3,600.00
General advertising.....	4,000.00	4,000.00
Books for Register of Wills, printing, etc.....	2,500.00	2,500.00
Total miscellaneous.....	10,600.00	10,600.00
Interest and sinking fund.....	1,213,947.97	1,213,947.97
General contingent fund for emergencies.....	10,000.00	5,000.00
Municipal buildings.....		
For the payment of judgments against District of Columbia.....		
Health department.....	42,930.00	44,180.00
Total.....	1,266,927.97	1,263,127.97
Rent of market site and property yard.....		
Revision of laws.....		
Purchase of police-court building.....		
Removal of bodies from Holmead Cemetery.....		
Condemnation of land for alleys, streets, and roads.....		
Payment of Linthicum loan (school).....		
Repair of Georgetown market house.....		
Payment of referees of Court of Claims, necessary expenses.....		
Total.....		
<i>Water department.</i>		
Salaries and contingent expenses.....	11,742.00	11,739.00
For engineers, fireman, pipe distribution, etc.....	130,000.00	100,000.00
Interest and sinking fund on water-stock bonds.....	44,610.00	44,610.00
Interest and sinking fund on account of water supply.....		30,000.00
Purchase of pump-house on U street northwest.....		
Water main to Anacostia, D. C.....		
Water main to Mount Pleasant.....		
Total water department.....	186,352.00	186,349.00
For two pumping engines, etc.....		
For improvement and protection of harbor, etc.....		

¹ Includes fuel, furniture, stationery, repairs, etc.

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appropriations from 1880 to 1887—Continued.

1886.		1887.		1888.		1889.
Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.	Appropriated.	Estimated.
\$18,000.00	\$18,000.00	\$20,000.00	\$18,000.00	\$25,000.00	\$18,000.00	\$23,000.00
100,000.00	100,000.00	105,000.00	100,000.00	120,000.00	120,000.00	140,000.00
			30,000.00	60,000.00		
266,000.00	266,000.00	293,000.00	299,000.00	398,000.00	338,500.00	525,000.00
351,280.00	339,720.00	357,500.00	344,780.00	417,280.00	350,560.00	503,860.00
112,300.00	108,150.00	115,950.00	116,420.00	114,420.00	109,920.00	175,050.00
15,440.00	18,040.00	15,840.00	15,840.00	28,060.00	23,340.00	43,520.00
16,218.00	16,218.00	16,218.00	16,218.00	20,074.00	13,724.00	25,724.00
495,238.00	482,128.00	505,508.00	493,258.00	579,834.00	497,544.00	748,154.00
7,250.00	7,250.00	7,250.00	6,950.00	5,000.00	5,000.00	10,000.00
385,000.00	390,000.00	400,000.00	415,400.00	7,500.00	6,950.00	7,750.00
				432,675.00	438,270.00	464,310.00
				16,000.00		
			2,500.00	5,000.00	5,000.00	5,000.00
				500.00	300.00	500.00
31,000.00	30,680.00	31,848.00	31,900.00	33,200.00	34,400.00	41,400.00
7,000.00	7,000.00	6,000.00	6,000.00	9,000.00	15,000.00	15,000.00
20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
20,000.00	20,000.00	25,000.00	20,000.00	25,000.00	20,000.00	30,000.00
20,000.00	20,000.00	25,000.00	25,000.00	25,000.00	20,000.00	20,000.00
60,000.00	60,000.00	20,000.00	50,000.00	100,000.00	238,000.00	261,500.00
				15,000.00	10,000.00	5,000.00
550,250.00	554,930.00	535,098.00	572,750.00	693,875.00	812,920.00	880,460.00
500.00	500.00	500.00	500.00	750.00	500.00	500.00
3,600.00	3,600.00	3,600.00	3,600.00	10,000.00	3,600.00	4,000.00
4,000.00	4,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	1,500.00	1,200.00
10,600.00	10,600.00	9,600.00	9,600.00	21,250.00	8,600.00	8,700.00
1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97	1,213,947.97
5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
		120,500.00				
36,400.00	44,130.00	46,400.00	42,280.00	44,570.00	42,580.00	43,410.00
1,255,347.97	1,263,077.97	1,390,347.97	1,261,227.97	1,263,517.97	1,261,527.97	1,267,357.97
						10,000.00
					2,500.00	25,000.00
					2,500.00	35,000.00
11,739.00	11,739.00	16,634.00	11,939.00	18,936.00	11,936.00	23,100.00
78,000.00	78,000.00	65,000.00	75,000.00	125,000.00	100,000.00	100,000.00
44,610.00	44,610.00	44,610.00	44,610.00	44,610.00	44,610.00	44,610.00
55,047.27	55,047.27	57,239.02	57,239.02	76,655.69	76,655.69	86,962.35
						2,275.00
						2,500.00
						7,500.00
189,396.27	189,396.27	183,483.02	188,788.02	265,201.69	233,201.69	266,947.35
				35,000.00	35,000.00	
				10,000.00	2,500.00	8,700.00

During the fiscal year 1884-'85, \$500,000 was appropriated towards completing the sewerage system of the District of Columbia, but was not included in the regular appropriation bill.

REPORT
OF THE
HEALTH OFFICER
OF THE
DISTRICT OF COLUMBIA.

1887.

OFFICERS OF THE HEALTH DEPARTMENT.

HEALTH OFFICER.

SMITH TOWNSHEND, M. D.

CHIEF CLERK.

J. C. MCGINN.

CLERKS.

B. F. PETERS.
T. W. PARSONS.

M. L. SOTHORON.
W. B. JONES.

SANITARY INSPECTORS.

A. J. HEIRD.
W. A. SHORT.
E. H. HUME.

THOMAS M. SHEPHERD.
B. G. POOL, M. D.
C. H. WELCH.

INSPECTOR OF PLUMBING.

SAMUEL A. ROBINSON.

FOOD INSPECTORS.

J. R. MOTHERSHEAD.

CALEB SEBASTIAN.*

W. B. MOORE.

INSPECTOR OF MARINE PRODUCTS.

GWYNN HARRIS.

POUNDMASTER.

SAMUEL EINSTEIN.

MESSENGER.

ORLANDO KING.

PHYSICIANS TO THE POOR.

D. P. HICKLING, M. D.
R. A. NEALE, M. D.
W. E. HANDY, M. D.
J. H. YARNALL, M. D.
H. DARLING, M. D.

J. K. P. GLEESON, M. D.
R. T. HOLDEN, M. D.
L. K. BEATTY, M. D.
P. S. ROY, M. D.
R. A. PYLES, M. D.

CHAS. F. GOODELL, M. D.

* Detailed from Metropolitan police force.

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REPORT OF THE HEALTH OFFICER.

GENTLEMEN: The following pages present statements, in detail, which exhibit the operations of the health department for the fiscal year ending June 30, 1887.

They cover the various services committed to the care of this office, such as the general sanitary service; the prevention of the sale of unwholesome food; the inspection of marine products; the care of the sick poor; the securing of "a full and correct record of vital statistics"; including the registration of births, marriages, and deaths, and the prevention of the running at large of domestic animals. The inspector of plumbing apparently performs his duty under direction of this department, as his report is presented in these pages, but he is in reality under the supervision of the Engineer Commissioner, and has his office in connection with that of the inspector of buildings.

The total number of deaths for the year reached 4,665, showing a decrease of 9 as compared with last year, and being a less number than for any year since 1883.

The annual death-rate per 1,000 per annum for the year (population estimated at 210,000) was 22.21, the lowest annual death-rate for twelve years being 1.17 per 1,000 below the mean rate for that period.

The death-rate of the white population was 17.74 per 1,000 per annum, that of the colored population 31.15.

It is worth while in this connection to call attention to the small death-rate of our white population and the continued good showing in this direction. The rate of 17 per 1,000 per annum is considered about the minimum to be reached in large cities, and in the past twelve years the death-rate of our white population has at no time reached 20, the mean rate being 18.80. This is a remarkably good showing and gives an idea of what Washington might be were it not for its large and constantly growing population of colored people, a very large number of whom are careless of all the laws of nature, let alone sanitary laws and the laws of hygiene.

The death-rate of the colored population during the past twelve years has never been below 30 per 1,000 per annum and has gone as high as 40, the mean being 34.39 per 1,000. This death-rate must, of course, be added to that of the white population and the total go forth as the annual death-rate of the District of Columbia. The death-rate of the colored population is lower for the past year, however, than the mean rate for the past twelve years by 3.24 per 1,000 per annum.

The deaths for the year by sex and color were as follows: 1,343 white males; 1,141 white females; 1,079 colored males and 1,102 colored females. It is a curious fact that while the colored females show a

larger mortality than the colored males for the year, yet it is in this class that we find the decrease, as compared with last year, which brings the total number of deaths below that of 1886.

Arranged according to classes of disease, we find 989 deaths accredited to the zymotic class; 1,711 to the constitutional; 1,817 to the local; 499 to the developmental, and 189 to violence.

The zymotic diseases, such as typhoid, scarlet, and the other fevers, diphtheria, small-pox, etc., are those which are supposed to find lodgment and sustenance in insanitary conditions, and right here again the death-rate of the colored population comes to the front nearly double that of the white population. The annual death-rate of the white population from the zymotic class of diseases last year was 3.54 per 1,000 per annum, that of the colored population 6.29 per 1,000 per annum. This year the death-rate of the white population is 3.76 per 1,000; that of the colored population 6.60. The subject of vital statistics will be discussed at greater length further on in these pages, but I have deemed it advisable to call attention to these facts in the opening, in order that all persons interested may see the effect that the colored population has upon the death-rate of the District.

The condensed summaries following (statements A and B) show at a glance the deaths by classes with percentages, annual death-rate, etc., while Statement C shows population, deaths, and death-rates for the past twelve years.

STATEMENT A.—Showing deaths by classes, arranged according to sex and color, with percentages and annual death-rates, for the year ending June 30, 1887.

Classes of disease.	Deaths.							Percentages to total deaths.				Annual death-rate.		
	White.		Colored.		White.	Colored.	Total.	White.		Colored.		White,	Colored.	Total.
	M.	F.	M.	F.				M.	F.					
Zymotic	270	257	236	226	527	462	989	21.10	22.53	21.87	20.51	3.76	6.60	4.70
Constitutional	286	295	271	319	581	590	1,171	21.29	25.86	25.12	28.95	4.15	8.43	5.58
Local	580	436	424	377	1,016	801	1,817	43.19	38.21	39.29	34.21	7.26	11.44	8.65
Developmental	110	137	104	148	247	252	499	8.19	12.00	9.64	13.43	1.77	3.60	2.38
Violence.....	97	16	44	32	113	76	189	7.33	1.40	4.08	2.90	0.80	1.08	0.90
Total	1,343	1,141	1,079	1,102	2,484	2,181	4,665	100.00	100.00	100.00	100.00	17.74	31.15	22.21

STATEMENT B.—Showing deaths by classes, arranged according to sex and color, with percentages and annual death-rates, for the year ending June 30, 1886.

Classes of diseases.	Deaths.							Percentages to total deaths.				Annual death-rate.		
	White.		Colored.		White.	Colored.	Total.	White.		Colored.		White.	Colored.	Total.
	M.	F.	M.	F.				M.	F.	M.	F.			
Zymotic	253	228	223	211	481	434	915	19.28	20.18	20.71	18.27	3.54	6.29	4.46
Constitutional	286	281	280	338	567	618	1,185	21.80	24.87	26.00	29.26	4.17	8.96	5.78
Local	605	449	414	437	1,054	851	1,905	46.11	39.73	38.45	37.84	7.75	12.33	9.29
Developmental	94	144	96	132	238	228	466	7.17	12.74	8.91	11.43	1.75	3.30	2.27
Violence	74	28	64	37	102	101	203	5.64	2.48	5.93	3.20	0.75	1.46	0.99
Total	1,312	1,130	1,077	1,155	2,442	2,232	4,674	100.00	100.00	100.00	100.00	17.96	32.35	22.80

STATEMENT C.—Showing population, deaths, and death-rates for the twelve years ending June 30, 1887.

Years.	Population.			Deaths.			Death-rates.		
	White.	Colored	Total.	White.	Colored.	Total.	White.	Colored.	Total.
1876	106,741	50,859	157,600	2,086	2,074	4,160	19.54	40.78	26.40
1877	109,505	52,870	162,375	2,187	2,021	4,208	19.97	38.22	25.91
1878	112,340	54,960	167,300	2,166	2,065	4,231	19.28	37.57	25.29
1879	115,247	57,130	172,377	2,196	2,113	4,309	19.05	36.99	24.99
1880	118,236	59,402	177,638	2,085	2,121	*4,207	17.63	35.71	23.68
1881	121,300	61,760	183,060	2,205	1,931	4,136	18.18	31.27	22.59
1882	124,441	64,212	188,653	2,353	2,218	4,571	18.91	34.54	24.23
1883	126,300	65,680	191,980	2,270	2,016	4,286	17.97	30.69	22.33
1884	130,700	69,300	200,000	2,576	2,238	4,814	19.71	32.29	24.07
1885	130,700	69,300	200,000	2,610	2,388	4,998	19.97	34.45	24.99
1886	136,000	69,000	205,000	2,442	2,232	4,674	17.96	32.35	22.80
1887	140,000	70,000	210,000	2,484	2,181	4,665	17.74	31.15	22.21
Total .....	.....	.....	.....	27,660	25,598	*53,259	.....	.....	.....
Mean death rate .....	.....	.....	.....	.....	.....	.....	18.80	34.39	24.03

* One included in total whose color could not be ascertained.

The following is a synopsis of the work performed in the various branches of the service during the year:

There was 17,518 nuisances reported; 86,576 pounds of meat, 70,587 pounds of fish, 16,606½ bushels of fruits and vegetables, 479 bushels of oysters, 88,217 clams, and 163,590 crabs condemned as unfit for food.

Examinations and reports were made on 1,553 citizens' complaints, 950 official letters written, 900 official notices were issued, 25 cases were referred to the attorney and 29 to the chemist for action.

There were 3,058 animals impounded, and the contractor for the removal of offal took away 9,120 dead animals, 15,612 tons of garbage, and 21,941 barrels of night-soil.

The physicians to the poor treated 15,795 patients, of which number 5,072 were white and 10,723 colored.

There were 5,337 burial permits of all kinds issued, and 540 orders issued for burials at the public expense.

There were 1,924 inspections of plumbing work made, and 466 inspections of houses made in which there was no drainage but yards were connected with sewers.

Three hundred and seventy transcripts from the records of births, marriages, and deaths were furnished applicants, and 36 permits issued for obstruction of travel on streets on account of serious illness of residents.

THE ABATEMENT OF NUISANCES.

Table A, following, presents a consolidated statement detailing, by months, the number and character of the nuisances reported and abated during the year. The nuisances are distributed under 38 heads, arranged alphabetically for convenience.

Table B gives a consolidated report of nuisances for the six years ending June 30, 1887.

Alleys.—The first on the list of nuisances comes alleys, and we find 145 credited to that account, a slight increase over the number reported last year. These alleys were in a majority of instances unimproved, and in such cases it is a very hard matter to prevent the creation and constant recurrence of nuisances.

The paving of alleys with asphalt block under the compulsory permit system augurs well for sanitary improvement.

Ashes.—Ashes loom up as being responsible for 462 nuisances. The ash of wood or coal is not in itself a nuisance, but it is the small or large accumulation which has been deposited in the cellar, in the yard, or on the alley that entices refuse and filth of all other kinds to swell its proportions.

I have been pounding away for years now with recommendations that ashes be removed at the public expense, just as the garbage is. The prompt and regular removal of ashes would be a great sanitary reform, in that it would remove numberless *sources* of nuisance. I would again urge this matter upon the attention of the Commissioners.

Surface drainage.—Defects in the surface drainage of dwellings where the sewers are not extended resulted in nuisance in 314 cases. Whatever remedy was available we had applied in these cases and the nuisances all abated.

House nuisances.—The nuisances found in houses during the year numbered only 43, which is a good showing and gives evidence that the occupants of that class of dwellings which the inspectors are called upon to look after are profiting by sanitary advice.

Manure.—To this cause we find 457 nuisances attributed. These were cases where larger or smaller quantities had been allowed to accumulate on alleys or in yards or lots until the inspector was compelled to order removal. This evil will not be remedied until we have established an offal depot where manure, ashes, street sweepings, and all other city refuse can be received and properly disposed of. The establishment of such a depot I have urged in several of my former reports, and I trust the time may not be far distant when the District may possess such an institution.

Privies.—The table shows a decrease of nearly two thousand in the privies reported, which large decrease I am at a loss to account for. It is true that a large number of small houses have made sewer connection as the sewers were extended, and substituted water-closets for the privy-boxes, but not such a number as to entirely account for this large falling off.

Let me at this point say a few words respecting the privy-box system in vogue in this city. The receptacle for fecal matter is a wooden box 18 by 18 by 36 inches in the clear, constructed of 2-inch yellow pine and the inside thoroughly pitched to render it water tight. When filled the contents just fill one of the 40-gallon barrels used by the Odorless Excavating Apparatus Company in their pneumatic process of removal of night-soil.

One of the sanitary inspectors principal duties is to inspect all privy-boxes in his district regularly, direct their cleaning as they are filled, and see that if one is leaking the slightest particle it be substituted by another that is tight. The parties who use them are also instructed regarding the use of dry earth and disinfectants.

By this system all danger of contamination of soil and water by excreta is removed. Striking evidence of this was rendered a few years ago when a general analysis of all our pump water showed but few impure wells, while our sister city of Baltimore, with its catacomb of vaults, sinks, and cesspools, had to abandon use of all or nearly all of hers.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 729

TABLE A.—Consolidated report of nuisances for the year ending June 30, 1887.

Nature of nuisance.	1886.						1887.						Total.
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	
Alleys, filthy	12	12	16	11	5	5	2	5	11	9	21	19	128
Alleys, garbage in					1						3		4
Alleys, need repair		1	2	1			1			2	5	1	13
Areas		3	1			5		1	6	1	5	1	21
Ashes	69	32	36	33	35	9	22	40	42	75	35	34	462
Cellars	20	13	9	4	4	6	4	5	6	8	8	4	91
Drainage, surface	60	44	32	29	9	9	7	5	25	22	26	46	314
Garbage	39	24	37	25	32	28	26	35	25	20	14	19	324
Gutters	8	18	6	5	2				1	6	7	12	65
Hog-pens	8	13									4		15
Houses, filthy	0	1	1			1			2		1		12
Houses, unfit for habitation	11	9	1		3	2	1	2	1	2	3	5	31
Houses, slaughter	3	1	2						1		1	1	9
Houses, no privy	6	5	4	10	3	4		2		3		1	38
Hydrants	20	10	12	10	10	6	9	4	4	6	5	8	104
Lots, filthy	12	6	7	4		1		1	4	3	10	9	57
Lots, stagnant water	21	17	4	1	7	2			11	6	5	24	98
Manure	54	34	44	36	47	11	14	19	26	53	49	70	457
Miscellaneous	113	98	74	75	81	28	42	46	62	73	87	64	843
Pipes, water	6	6	4	5	4	11	24	6	10	19	14	14	123
Privies, filthy	620	431	456	589	425	229	144	299	409	560	325	560	5,047
Privies, dilapidated	12	5	5	7	8	1	1	1	2	7	4	10	63
Privies, full	691	459	505	639	431	224	148	316	433	570	413	578	5,407
Privies, leaky boxes	192	93	112	103	59	11	6	23	42	64	64	91	850
Ponds	1												1
Roofs, leaky		7	2										9
Sewers	62	36	30	41	36	39	19	34	30	43	38	67	475
Sewers, connection	9	16	4		1	2		4	1	1	1	7	46
Stables	22	9	12	14	11	2		1	3	8	7	12	101
Stables, cow	10	6	7	2	6	3		2		6	11	3	48
Streets, filthy							1				1		2
Streets, need repair	14	4	4	1							1		24
Traps, sewer	11	3	4	8	8	2		2	5	7	16	3	69
Yards	231	114	163	178	160	31	19	73	109	230	187	215	1,710
Yards, cow	1			2	3			2	1	1	2	1	13
Vaults, privy	6	1		4					2			2	15
Water-closets	27	41	26	31	42	20	30	46	10	50	31	48	428
Wharves			1										1
Total	2,369	1,562	1,623	1,858	1,433	690	520	974	1,310	1,855	1,305	1,920	17,518

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TABLE B.—Consolidated report of nuisances for six years ending June 30, 1887.

Nature of nuisance.	1882.	1883.	1884.	1885.	1886.	1887.	Total.
Alleys.....	228	283	227	220	134	145	1,237
Areas.....	35	35	63	28	10	21	192
Cellars.....	184	146	140	97	73	91	731
Drainage.....	416	378	404	305	390	314	2,207
Excavations.....	3						3
Gutters.....	319	203	254	178	78	65	1,097
Garbage.....	67	76	359	322	211	324	1,359
Hog-pens.....	40	26	26	40	14	15	161
Houses, filthy.....	60	53	38	49	22	12	234
Houses, unfit for habitation.....	81	85	38	53	16	31	304
Houses, no privy.....	45	34	20	30	42	38	209
Hydrants.....	42	85	89	155	89	104	564
Lots, filthy.....	169	50	160	138	88	57	662
Manure heaps.....	549	697	649	399	433	457	3,184
Markets, public.....	1	1	1				3
Miscellaneous.....	2,839	2,445	2,119	1,766	1,407	1,329	11,905
Pumps.....		2	12	1			15
Pipes, water.....	62	65	108	141	106	123	605
Ponds, stagnant.....	50	21	9	92	61	99	332
Privies, filthy.....	3,073	2,498	3,189	4,338	5,913	5,047	24,058
Privies, full.....	3,698	2,232	2,498	3,612	6,415	5,407	23,862
Privies, leaky boxes.....	780	601	688	690	943	850	4,552
Privies, dilapidated.....	141	88	57	76	149	63	574
Roofs, leaky.....	47	34	19	14	13	9	136
Sewers, public.....	308	355	355	403	413	475	2,309
Sewers, house-connection.....	70	74	48	28	35	46	301
Slaughter-houses.....	2	10	8	4	11	9	44
Stables.....	262	314	361	232	164	149	1,482
Streets, filthy.....	29	12	6	1	3	2	53
Traps, sewer.....	188	134	177	90	88	69	746
Yards.....	2,893	2,809	3,062	2,633	1,890	1,716	14,997
Yards, cow.....	73	35	18	17	12	13	168
Vaults, privy.....	15	10	5	9	22	15	76
Water-closets.....	211	266	257	407	376	428	1,945
Wharves.....						1	1
Total.....	16,980	14,157	15,464	16,568	19,621	17,518	100,308

Table C presents a detailed statement showing the character and amount of unwholesome food condemned during the year, while Table D exhibits in a condensed form the condemnations for a period of six years. Very few people have any idea of the vast amount of food condemned as unwholesome every year. The beef condemned in the past six years aggregates 90,546 pounds, while all the meats and poultry together run up to 210,681 pounds.

During the year there was condemned, among other things, 21,803 pounds of beef, 16,808 pounds of mutton, 4,661 pounds of veal, 3,728 pounds of pork, 1,189 chickens, 4,480 pounds of grapes, 13,902 water-melons, 39,868 cabbages, and 6,497 dozens of cucumbers.

TABLE C.—Unwholesome food condemned during the year ending June 30, 1887.

Articles.	1886.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Beef.....pounds..	3,961	3,759	3,336	1,727	887	603
Mutton.....do..	2,071	2,153	2,573	1,400	1,683	862
Veal.....do..	707	663	709	749	344	345
Pork.....do..	280	468	273	165	220	913
Bacon.....do..	43	220	190		50	
Sausage.....do..	50	9	7	37	26	
Chickens.....number..	17	13	22	23	176	394
Ducks.....do..				4	44	136
Turkeys.....do..				11	78	140
Geese.....do..					2	1
Birds.....do..			148		303	333
Squirrels.....do..					36	19
Rabbits.....do..					245	640
Opossum.....do..						
Apples.....bushels..	54½	46½	71½	36½	32½	35
Peaches.....do..	28½	64½	121			
Pears.....do..	18½	47	62½	23½		
Quinces.....do..	¼			¼		
Plums.....do..	3¼	5½	9½			
Bananas.....dozen..		19	55+	15	31	131
Oranges.....do..			900			200
Grapes.....pounds..	½	564½	1,142	1,078	480	503
Berries.....quarts..	1,616				160	320
Cherries.....do..	66					
Cantaloups.....number..	671	3,809	7,170	335	40	
Watermelons.....do..	2,129	8,818	2,388	257	14	
Pine-apples.....do..						
Asparagus.....bunches..	23					
Beets.....do..	48	21	19	6		
Carrots.....do..	38	2				3
Celery.....do..	10		4	58	26	116
Radishes.....do..	101		10	80	106	5
Rhubarb.....do..	4					
Lettuce.....do..	668	1,400	355	220	93	
Cabbage.....number..	2,096	2,210	2,625	1,460	1,206	959
Cymlings.....do..	479	509	97			
Egg-plants.....do..		117	505	463	25	
Cauliflower.....do..	8		53	61	43	
Pumpkins.....do..					7	8
Corn.....dozen..	379	484	817	239	5	
Cucumbers.....do..	2,177	171	380	226		
Kale.....bushels..						6½
Spinach.....do..				1½	4½	4½
Parsnips.....do..					3½	15½
Potatoes.....do..	149	99½	54	50½	31½	62½
Peas.....do..	31½	2½		3½		
Beans.....do..	37	26	24½	23	6	
Turnips.....do..	1½	3½				1½
Tomatoes.....do..	183½	189	67½	39½	15½	4½
Onions.....do..						
Eggs.....dozen..	5		3			
Cheese.....pounds..						
Butter.....do..			40			
Miscellaneous fruits and vegetables.....bushels	137½	146	186½	153½	150½	110½

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TABLE C.—Unwholesome food condemned, etc.—Continued.

Articles.	1887.						
	Jan.	Feb.	March.	April.	May.	June.	Total.
Beef.....pounds..	145	614	563	1,063	2,116	3,209	21,803
Mutton.....do.....	187	1,107	737	860	1,501	1,674	16,808
Veal.....do.....	116	63	185	221	137	422	4,661
Pork.....do.....	100	155	79	760	13	302	3,728
Bacon.....do.....	10				15		528
Sausage.....do.....	28	49	17	7	11	6	247
Chickens.....number..	137	291	47	9	58	2	1,189
Ducks.....do.....	150	396	6	2			738
Turkeys.....do.....	13	12	5	1		1	261
Geese.....do.....	1	7					11
Birds.....do.....							784
Squirrels.....do.....							55
Rabbits.....do.....	41						926
Opossum.....do.....	1						1
Apples.....bushels..	35	66½	29½	13	1½	28½	450½
Peaches.....do.....							214
Pears.....do.....							151½
Quinces.....do.....							1
Plums.....do.....							18½
Bananas.....dozen..	286	8	27	12	13		596
Oranges.....do.....	900	7	1,800	400	4	800	5,011
Grapes.....pounds..	338	291	84				4,480½
Berries.....quarts..	32		47		2,342	1,574	6,091
Cherries.....do.....					32	195	293
Cantaloups.....number..						18	12,043
Watermelons.....do.....						296	13,902
Pine-apples.....do.....				77	91	18	186
Asparagus.....bunches..			6	43	825	307	1,204
Beets.....do.....			11	17		28	150
Carrots.....do.....	5	8	21		8		85
Celery.....do.....	134	167	280	170	450		1,415
Radishes.....do.....				1,123	3,361	639	5,425
Rhubarb.....do.....				46	290	673	1,013
Lettuce.....do.....		12	65	160	1,346	3,622	7,941
Cabbage.....number..	2,278	17,346	3,182	654	2,680	3,162	39,868
Cymblings.....do.....				132	155	2,049	3,421
Egg-plants.....do.....	17					600	1,727
Cauliflower.....do.....	44			200			409
Pumpkins.....do.....	61	9	6				91
Corn.....dozen..							1,924
Cucumbers.....do.....					240	3,303	6,497
Kale.....bushels..	6	8½	55½	132½	43½		252½
Spinach.....do.....	2½	2½	3½	6½	4½	1	31½
Parsnips.....do.....	7	11½	5½	6½	½		49½
Potatoes.....do.....	196½	51	34½	56½	12	68½	865½
Pease.....do.....			½	½	483½	101½	624
Beans.....do.....				10	31	114½	299½
Turnips.....do.....	29	23½	12½	17½			89½
Tomatoes.....do.....		18½		1	23½	197½	740½
Onions.....do.....		4	9	17½	4½	103	137½
Eggs.....dozen..							8
Cheese.....pounds..						20	20
Butter.....do.....							40
Miscellaneous fruits and vegetables. bushels	157½	177½	161½	158½	240½	250½	2,031

TABLE D.—Unwholesome food condemnations for six years ending June 30, 1887.

Articles.	1882.	1883.	1884.	1885.	1886.	1887.	Total.
Beef .....pounds..	19, 056	8, 854	9, 657	10, 716½	20, 460	21, 803	90, 546½
Veal .....do....	3, 143	1, 380	1, 412	1, 932	5, 425½	4, 661	17, 953½
Mutton .....do....	5, 311	1, 919	2, 548	2, 903	13, 614	16, 808	43, 103
Bacon, ham, and pork.....do....	3, 952	1, 252	2, 679	2, 026	5, 866	4, 503	20, 278
Birds, rabbits, and squirrels....number..	577	123	206	407	1, 365	1, 766	4, 444
Poultry .....pounds..	5, 211	3, 700	1, 939	4, 264	9, 982	9, 261	34, 357
Eggs .....dozen..	288	185	31	16	315	8	843
Cheese and butter .....pounds..		1, 640	25			60	1, 725
Potatoes and parsnips .....bushels..	561½	888½	2, 537	711½	1, 357½	914½	6, 970½
Beans, peas, and onions.....do....	541½	418	347½	879	695½	1, 061	3, 942½
Cabbage and lettuce.....heads..	7, 168	11, 880	8, 692	27, 568	31, 335	48, 218	134, 861
Squashes and pumpkins.....number..	8, 257	5, 813	6, 142	4, 952	6, 813	3, 512	35, 489
Corn .....dozen..	2, 129	1, 456½	1, 716½	1, 998	3, 713	1, 924	12, 937
Cucumbers .....do....	3, 668	3, 520½	3, 861½	7, 233	11, 216½	6, 497	35, 996½
Egg plants .....number..	2, 349	2, 040	811	2, 878	4, 377	1, 727	14, 182
Tomatoes and turnips .....bushels..	422½	376½	897	1, 326½	856½	829½	4, 708½
Kale and spinach .....do....	279½	343½	1, 535½	301½	713½	284	3, 457
Apples, peaches, and pears.....do....	293	442½	874	498½	1, 385½	815	4, 308½
Watermelons.....number..	7, 526	19, 830	6, 802	12, 161	9, 398	13, 902	69, 619
Cantaloupes.....do....	12, 166	18, 000	8, 541	9, 705	16, 682	12, 043	77, 137
Berries .....quarts..	1, 121	2, 144	2, 232	3, 620	3, 920½	6, 091	19, 128½
Oranges and lemons .....dozen..	1, 766	300½	636½	8, 539½	2, 761	5, 011	19, 014½
Bananas .....do....			339½	314½	419	596	1, 668½
Grapes.....pounds..			895	534	1, 533	4, 480½	7, 442½
Miscellaneous fruits and vegetables, bushels.....	1, 243	1, 368½	1, 206½	1, 718	1, 170	2, 074½	8, 779½
Miscellaneous vegetables .....bunches..	3, 460	3, 336	12, 845	9, 872	15, 981½	10, 292	55, 786½

MARINE PRODUCTS.

The inspection of marine products, as exhibited in Tables E and F, shows an increase in the receipts of shad and herring, the two principal Potomac fishes, for the year. There was a slight decrease in the number of bushels of oysters received, and there was only 479 bushels condemned as against 3,514 bushels for the year before. The principal condemnations were 84,950 herring, 163,590 crabs, 88,217 clams, and 9,181 bunches of bunch-fish.

The labor in this branch of the service, which is intricate and demands good judgment, has been performed in an entirely satisfactory manner.

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TABLE E.—Inspections and condemnations of marine products for the year ending June 30, 1887.

Inspections.	1886.					
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
INSPECTIONS.						
Oysters.....bushels..	630	870	13,600	41,400	63,300	49,600
Clams.....number..	527,000	466,000	302,000	14,000		
Crabs.....do.....	184,400	149,300	65,800	900		
Mackerel.....do.....	2,961	2,141	424	247		
Sheepshead.....do.....	141	58	161	63		
Porgies.....do.....	91					
Striped bass.....bunches..	5,230	7,138	6,891	17,067	25,355	7,503
Bluefish.....do.....	5,175	11,336	8,395	2,341		
Croakers.....do.....		525	235			
Eels.....do.....	412	359	357	625	825	74
Sturgeon.....number..	147	166	163	4		
Pike.....bunches..	481	330	76	579	1,407	604
Perch, yellow.....do.....	289	155	162	996	1,295	562
Perch, white.....do.....	2,958	2,013	1,833	2,937	7,431	1,863
Trout.....do.....	2,111	4,347	3,557	9,691	93	
Catfish.....do.....	5,262	4,315	3,191	5,226	3,745	1,214
Mulletts.....do.....	67	63	23	637	982	77
Turtles.....number..	2	1	1			
Spots.....bunches..	883	4,357	1,368	943		
Drumfish.....number..		2	33	13		
Chubs.....bunches..				560	560	600
Carp.....number..				3	15	
Sharks.....do.....	1					
Hogfish.....bunches..		38				
Flounders.....do.....		54	537	169		
Winter shad.....number..				148	895	252
CONDEMNATIONS.						
Oysters.....bushels..			128		3	
Clams.....number..	21,250	26,300	16,900	550	937	
Crabs.....do.....	41,240	33,500	20,500			
Herring.....do.....	1,000					
Fish.....bunches..	1,259	1,240	736	946		345
Sturgeon.....number..	1	6				
Lobsters.....do.....			72	400		

TABLE E.—*Inspections and condemnations of marine products, etc.*—Continued.

Inspections.	1887.						
	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
INSPECTIONS.							
Oysters.....bushels..	20,600	48,100	34,900	17,650	3,110	1,790	295,550
Clams.....number.....				125,000	532,000	431,000	2,397,000
Crabs.....do.....			800	14,100	191,000	130,900	737,200
Shad.....do.....		4	7,141	151,694	106,475		265,314
Herring.....do.....		4,256	147,638	5,416,777	2,317,700		7,886,371
Mackerel.....do.....					19	1,860	7,652
Sheepshead.....do.....					178	97	698
Porgies.....do.....					72	72	235
Striped bass.....bunches..	492	5,336	6,367	3,906	1,357	7,275	93,917
Blue-fish.....do.....					1,520	2,720	31,487
Croakers.....do.....							820
Eels.....do.....		21	223	1,194	794	290	5,174
Sturgeon.....number.....				4	253	80	817
Pike.....bunches.....	567	2,053	1,718	548		22	8,385
Perch, yellow.....do.....	665	3,910	4,130	1,687		36	13,887
Perch, white.....do.....		1,807	2,517	2,580	1,200	1,833	28,972
Trout.....do.....					11,080	9,423	40,302
Catfish.....do.....	2,016	10,832	8,858	5,667	4,349	3,619	58,234
Mullets.....do.....	41	931	1,694	922		32	5,469
Turtle.....number.....					8	3	15
Spots.....bunches.....						1,937	9,488
Drumfish.....number.....					10	1	59
Chubs.....bunches.....		320	160				2,200
Carp.....number.....		36	9	6	111		180
Tailors.....bunches.....			892				892
Sharks.....do.....							1
Hogfish.....bunches.....							38
Flounders.....do.....			65			27	852
Winter shad.....number.....		520					1,815
Halibut.....do.....			1				1
CONDEMNATIONS.							
Oysters.....bushels.....		78	190	80			479
Clams.....number.....				800	7,600	13,880	88,217
Crabs.....do.....			1,000	2,350	33,400	31,600	163,590
Shad.....do.....				63	140		203
Herring.....do.....				7,150	76,800		84,950
Fish.....bunches.....	95	410	252	1,900	1,473	525	9,181
Sturgeon.....number.....						1	8
Sheepshead.....do.....					2		2
Lobsters.....do.....							472
Codfish.....pounds.....		450					450
Blue-fish.....bunches.....				336			336
Turtles.....number.....					1	4	5

TABLE F.—*Inspections and condemnations of marine products for six years ending June 30, 1887.*

INSPECTIONS.								
Years.	Shad.	Herring.	Blue-fish.	Fish.	Sturgeon.	Oysters.	Clams.	Crabs.
				<i>Bunches.</i>		<i>Bushels.</i>		
1882.....	350,309	6,439,635	164,757	211,268	1,759	359,354	989,921	364,508
1883.....	258,711	4,960,426	61,310	296,419	1,752	353,402	1,247,064	587,335
1884.....	231,129	5,650,812	21,703	278,543	1,564	365,246	1,787,806	865,428
1885.....	125,300	9,812,973		279,346	1,320	283,142	1,442,900	747,500
1886.....	189,828	7,008,223	212,110	231,764	1,537	333,390	2,105,800	639,900
1887.....	265,314	7,886,371	31,487	271,961	817	295,550	2,397,000	737,200
Total..	1,420,591	41,758,440	491,367	1,569,301	8,749	1,990,084	9,970,491	3,941,871
CONDEMNATIONS.								
1882.....	3,685	14,011	33	9,645	144	12,559	31,977	91,238
1883.....	35	25,363	55	12,020	17	16,387	59,700	107,160
1884.....	275	23,757		14,508	29	3,180	68,464	210,917
1885.....	203	192,984		11,609	34	2,215	58,228	190,744
1886.....	225	136,700		15,001	13	3,514	116,117	141,059
1887.....	203	84,950	336	9,378	8	479	88,217	163,590
Total..	4,626	477,765	424	72,161	245	38,334	422,703	904,708

THE POUND SERVICE.

The operations of the pound for the year are exhibited in Table G, and Table H gives a condensed report for the past six years. There was a slight decrease in the number of dogs impounded. Washington seems, however, to have some unfailing source of dog supply. The average annual capture for the past six years has been 3,088 per year, and of the 18,628 dogs taken fully 18,000 have been killed, without any perceptible effect on the dog population.

The new police regulations entail upon the pound-master the duty of taking up chickens found running at large; but before this work can be entered upon it will be necessary to get from Congress an appropriation to provide for building of pens, construction of a suitable wagon, etc., as there is no provision at present for these things.

TABLE G.—Operations of the pound for the year ending June 30, 1887.

Months.	Impounded.									Disposition.					Amount realized from fees.
	Horses.	Mules.	Cows.	Sheep.	Hogs.	Goats.	Geese.	Dogs.	Total.	Redeemed.	Killed.	Dogs killed.	Sold.	Returned.	
July	2	.....	21	.....	1	.....	.....	159	183	23	159	159	1	.....	\$47. 00
August	1	.....	.....	.....	.....	7	2	475	485	21	458	458	4	.....	42. 00
September	1	.....	21	.....	.....	3	2	379	406	29	370	369	5	.....	65. 00
October	1	.....	15	2	.....	6	.....	401	425	24	392	390	9	.....	60. 00
November	2	.....	14	.....	1	13	12	265	307	19	264	258	6	.....	36. 50
December .....	.....	.....	.....	.....	.....	.....	.....	83	83	.....	83	83	.....	.....	.....
January .....	.....	.....	4	.....	.....	.....	.....	111	115	1	100	100	.....	4	2. 00
February .....	.....	.....	.....	.....	.....	7	.....	105	112	7	105	101	.....	.....	12. 00
March	2	.....	.....	.....	.....	.....	.....	124	126	4	122	122	.....	.....	8. 00
April	1	.....	1	.....	.....	4	.....	255	261	5	250	249	3	1	15. 00
May	8	.....	11	.....	.....	9	.....	184	212	27	183	178	1	.....	49. 00
June	3	.....	.....	.....	.....	1	.....	339	343	10	324	324	9	.....	46. 55
Total	21	.....	87	2	2	50	16	2,880	3,058	170	2,810	2,791	38	5	383. 05

TABLE H.—Animals impounded during the six years ending June 30, 1887.

Years.	Horses.	Cows.	Mules.	Hogs.	Geese.	Sheep.	Goats.	Dogs.	Total.
1882	39	161	3	3	252	8	90	3,884	4,440
1883	15	204	2	2	80	.....	66	3,007	3,376
1884	31	120	2	2	75	.....	29	2,699	2,958
1885	15	52	4	2	48	3	64	3,190	3,378
1886	22	66	2	1	89	1	52	2,968	3,201
1887	21	87	.....	2	16	2	50	2,880	3,058
Total	143	690	13	12	560	14	351	18,628	20,411

THE INDIGENT SICK.

In the following statement (Table I) the work done by the physicians to the poor during the year is presented. There were 15,795 patients treated, of which number 5,072 were white and 10,723 were colored; there were 21,340 visits made, 4,501 office consultations held, and the cost of medicines prescribed was \$3,097. Sickness prevailed extensively among the poor in several sections during the winter, especially in South Washington, and the physicians were called upon to work hard. This labor was well performed.

TABLE I.—*The sick poor.*

Months.	Patients treated.	White.	Colored.	Visits made.	Office consultations.	Cost of medicines furnished.
1886.						
July	1,350	416	934	1,619	459	\$205.55
August	1,393	447	946	1,628	459	237.35
September	1,611	518	1,093	2,043	444	299.50
October	1,235	403	832	1,665	332	223.20
November	956	337	619	1,321	253	183.35
December	1,077	343	734	1,565	270	228.25
1887.						
January	1,221	339	882	1,661	313	227.00
February	1,202	398	804	1,757	334	252.00
March	1,688	548	1,140	2,495	483	369.60
April	1,391	451	940	2,043	365	310.65
May	1,142	394	748	1,527	373	243.60
June	1,529	478	1,051	2,016	416	316.95
Total	15,795	5,072	10,723	21,340	4,501	3,097.00

THE REMOVAL OF OFFAL.

Table K presents a statement showing by months the amount of offal removed during the year, the totals being: 9,120 dead animals; 15,612 tons of garbage, and 21,941 barrels of night-soil. The dead animals and garbage both show an increase as compared with last year, while the collections of night-soil have decreased 2,303 barrels.

TABLE K.—*Offal removed.*

Months.	Dead animals.	Garbage.	Night-soil.	Months.	Dead animals.	Garbage.	Night-soil.
1886.				1887.			
	No.	Tons.	Barrels.		No.	Tons.	Barrels.
July	1,288	1,453	2,190	January	333	984	1,040
August	1,337	1,605	2,060	February	462	968	893
September	969	2,005	2,390	March	689	1,234	1,400
October	744	1,249	1,920	April	770	1,028	1,798
November	550	1,067	1,780	May	800	1,174	2,560
December	243	1,213	1,220	June	935	1,632	2,690
				Total	9,120	15,612	21,941

THE INSPECTION OF PLUMBING.

The following report of the inspector of plumbing treats of various matters of interest to every householder.

As stated in the introduction to this report, while the inspector of plumbing presents his report to the health officer as the officer authorized by law to "enforce regulations governing plumbing, house drainage, and the ventilation of house sewers," yet, for convenience sake, his office has been associated with that of the inspector of buildings, under the engineer department.

This arrangement, while necessary as a matter of convenience to persons doing business with the two officers named, has served to prevent as careful supervision of the detail of this work as I could have desired. On frequent occasions I have called attention to the necessity, and I believe I may now add the imperative necessity, of preserving a

comprehensive record of the plumbing work which is being done in the dwellings of this city and its suburbs.

The proper assistance should be supplied, so that proper indexes may be made, uniformity may be preserved in the filing of plans, and a record of ready reference be secured which would prove of value and serve as a guide to the sanitarian of the future as well as to the property-owner and householder.

I would earnestly recommend that a clerk, at least, be provided to aid in the improvement of this service, as the rapid multiplication of the work demands the entire time of the inspector and his assistant in other duties than those of a clerical nature.

REPORT OF THE INSPECTOR OF PLUMBING.

JULY 1, 1887.

SIR: I have the honor to report the following operations of this office for the year ending June 30, 1887:

Nineteen hundred and twenty-four plans showing arrangement of plumbing fixtures and lines of drain-pipes within the buildings have been submitted to me, and certificates of approval have been issued, generally without material change, showing that the improved methods are appreciated by the architects and house-owners. Four hundred and six plans have been submitted where no plumbing fixtures or drain connections were shown within the buildings, the plumbing usually consisting of water-closet and hydrant in the yard, having connections with the public sewer in the alley.

Such houses, when built upon ground which is free from moisture or when protected by a free use of Portland cement from ground air and dampness, make healthful abodes, and the poor of this city are favored above their fellows of much larger cities in having separate tenements of this description. This makes 2,390 new buildings for which plans have been approved by this office and in which the plumbing and drainage work has been completed. A careful inspection of this work was made, and as many as three visits were paid to each house during the progress of the work.

Two hundred and ninety-one inspections have been made of plumbing in old houses, covering the long list of defects in terra-cotta drains; in broken traps, or absence of traps; in miniature ventilating pipes, or the absence of all ventilation; in badly jointed soil and waste pipes, showing dishonest practices to have been common a few years ago. Many fixtures have been condemned and modern appliances recommended.

On the 6th of April, 1887, the honorable Commissioners of the District of Columbia appointed a board to revise the regulations governing plumbing and house-drainage, and also for the examination of plumbers making application for registration, and ordered that after September 1 no person should be allowed to engage in the plumbing business or do any plumbing work whatsoever relating to the water supply or drainage of any premises except a master plumber who shall have duly registered; and no plumber should be allowed to register until he had passed a satisfactory examination by the board constituted for that purpose, and had furnished an acceptable bond in the sum of \$500. The board, as constituted by authority of the Commissioners, consisted of the following members: Samuel A. Robinson, inspector of plumbing (chairman); Dana C. Barber, inspector of the water department (secretary); H. F. Hayden, superintendent of the water department; R. G. Campbell, president of the regular Plumbers' Association of this District; and A. S. Dent, president of the Master Plumbers' Mutual Protective Association. Until July 1 weekly meetings were held by the board for the examination of candidates for registration as employing plumbers, and at this time the work is progressing, with a promise of weeding out some incompetent and raising the standard of all employers. The candidate's previous good or bad record must somewhat influence the action of the board in its final judgment, as what is most desired, after a show of competency has been made, is an appreciation of the high moral obligation resting upon every employing plumber to do his work honestly for the protection of the health of those who engage his services. The examinations have been chiefly oral, some simple blackboard sketching being the only exception, and the examination usually lasts half an hour, though sometimes extended for an hour or more. In some cases those who failed to pass a satisfactory examination have been given an extension of time to prepare for another hearing before the board, and upon final action it is presumed that every deserving employer will be enabled to register. It is expected that great good will come from this action of the honorable Commissioners, and the best element in the trade appear to approve of the

order. It is well for all those who engage in this important business to have, in addition to their skill and experience as operative plumbers, an intelligent appreciation of the physical laws of hygiene and a full appreciation of the moral side of their duties, and it is hoped this effort of the Commissioners will eventually receive the full support of every respectable plumber in this District.

In my last report I referred to the examination I had made of the plumbing and drainage of the old school buildings, and noted some of the more serious defects found in their construction. Since that time many improvements have been made in accordance with my recommendations. An appropriation of \$15,000 was asked for to do the work of reconstructing the plumbing in all these buildings, and \$10,000 was allowed. By judicious management on the part of the inspector of buildings all those schools having plumbing fixtures in the basement have been remodeled, and, as I suggested in my report, the water closets and urinals have been placed outside of the building where there was sufficient yard space for the purpose. This removes the great source of contamination of air in the school-rooms. In the case of four old school buildings the "dry-closet system" was adopted, but not until evidence was given to the Commissioners that the system was satisfactory in every respect. Contracts have also been made for the "dry closets" to be placed in eight of the new schools now in course of erection.

Nothing has been done to remedy the deplorably defective condition of the drainage in the buildings occupied by the General Government. Every effort has been made by this office and those in authority in the Departments to bring about a reconstruction of the plumbing work, but Congress seems not to appreciate the great importance of giving relief to those public servants who have so long been compelled to breathe this polluted atmosphere. The result must be fatal. "The evil is allowed to exist because its first manifestations are not in a form that appalls and terrifies. Its approach is slow and insidious. At length the frame racked with pain, a mind debilitated, unbalanced, or diseased, powers of usefulness destroyed, are the fatal results of a few years spent in the poisonous atmosphere of our Government buildings. These statements are no exaggeration of the evil, for exaggeration is impossible."

A few of our leading hotels have made changes in the plumbing fixtures, with partial ventilation, which somewhat improves their sanitary condition, but none have as yet adopted a system entirely satisfactory, or that would entitle them to a certificate of approval from this office.

In my last report I referred with pleasure to the faithful and intelligent services of my assistant, Mr. J. T. Shedd; but the salary attached to the office was not sufficient to hold him in public service, and his resignation was offered and accepted, since which time the office has been acceptably filled by Mr. John Murphy, who has had long experience as foreman in private employment.

My official relations with the officers of the engineer and building departments continue to be satisfactory and have always been cordial, and I gladly make acknowledgment of the courteous treatment I have received from your office.

Very respectfully, your obedient servant,

SAM'L A. ROBINSON,
Inspector of Plumbing.

Dr. SMITH TOWNSHEND,
Health Officer, District of Columbia.

MEDICAL SANITARY INSPECTOR.

The following report of the medical sanitary inspector presents some interesting facts for consideration. It is gratifying to note the fact that scarlet fever has been reduced from 168 fatal cases in 1884, and 137 in 1885, to only 15 for the present year.

Two years ago the inspector made a plea for a change in the methods of the practice of midwifery in the District. This plea I seconded heartily, knowing full well that the practice of both medicine and midwifery stand badly in need of regulation in this District. We are overrun with quacks and incompetent midwives in this city, and as a consequence our infantile mortality and record of still-births are largely augmented. This year he calls attention to the absurdity of the present method of issuing marriage licenses and expecting to get any sort of record.

We have been waiting patiently, year after year, for the much-talked-of codification of the District laws, and we lived in hope of having numer-

ous deficiencies in our ordinances provided for. If there is no hope for the code at the incoming session of Congress, then bills covering these matters should be drawn and presented for action.

REPORT OF THE MEDICAL SANITARY INSPECTOR.

SIR: I have the honor to submit the following statement of duties performed by me as medical sanitary inspector during the past year, together with some comments suggested by my official experience. In so far as we consider the prevalence of disease and the mortality returns, the year has been comparatively a most favorable one. The annual death-rate has been lower than for any year during the past twelve.

While cholera, yellow fever, small-pox, and typhus have been occurring epidemically in various parts of the world, our fair city has been spared the visit of a single case of either of these dreaded diseases.

A number of cases of chicken-pox were reported which presented some of the earlier symptoms of variola, but in no instance did the diagnosis remain long a matter of doubt.

The last case of small-pox occurred in this city in April, 1883, since which time no systematic method of vaccination has been in vogue; consequently there are now in the District many thousands of susceptible individuals who would afford material for an epidemic. Cases of the disease are constantly existing in our neighboring cities and the surrounding country, and with the present facilities for travel are liable at any time to be introduced among us. Therefore it seems necessary and proper that steps should be taken to secure a more general vaccination and re-vaccination at a time when it can be done without that haste and danger which are incidental to a threatened epidemic.

The usual visits have been made where deaths have resulted from certain zymotic diseases, to ascertain if possible whether any local cause could be found for their development, and to instruct the occupants of the premises in regard to disinfection, isolation, etc.

The table appended shows the deaths from the principal miasmatic diseases during the year, and also a comparison with the deaths from the same causes during the past eleven years.

Table showing the comparative mortality from measles, scarlet fever, diphtheria, croup, typhoid fever, typho-malarial fever, and malarial fevers during the eleven years ending June 30, 1887.

Year.	Measles.			Scarlet fever.			Diphtheria.			Croup.			Typhoid fever.			Typho-malarial fever.			Malarial fevers.		
	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.	Total deaths.	White.	Colored.
1877	11	7	4	120	105	15	49	38	11	39	31	8	82	51	28	46	32	14	52	23	29
1878	7	2	5	146	107	39	140	101	39	56	35	21	101	67	34	31	21	10	55	28	27
1879	10	7	3	129	117	12	79	60	19	50	34	16	74	45	29	25	12	13	53	26	27
1880	1	...	1	28	21	7	29	23	6	45	27	18	84	43	41	20	14	6	48	21	27
1881	8	6	2	26	25	1	124	106	18	89	64	25	67	44	23	31	17	14	99	41	58
1882	2	1	1	35	31	4	116	82	34	55	38	17	120	74	46	44	26	18	112	55	57
1883	6	5	1	125	106	19	85	63	22	24	20	4	92	49	43	38	15	23	93	51	42
1884	179	83	96	168	133	35	42	35	7	58	25	13	76	53	23	34	20	14	66	33	33
1885	9	2	7	137	113	24	77	53	24	42	31	11	124	83	41	30	16	14	78	43	35
1886	3	2	1	48	33	15	88	49	39	26	12	14	128	81	47	17	8	9	54	33	21
1887	14	11	3	15	11	4	72	55	17	25	19	6	116	72	44	22	11	11	99	47	52
Total.	250	126	124	977	802	175	901	665	236	489	336	153	1,064	665	399	338	192	146	809	401	408
Mean.	22.7	11.5	11.3	88.8	72.9	15.9	81.9	60.5	21.5	44.5	30.5	13.9	96.7	60.5	36.3	30.7	17.5	13.3	73.5	36.5	37.1

Measles, typho-malarial fever, and malarial fevers have furnished a slightly greater number of deaths during the past than during the preceding year, but scarlet fever diphtheria, croup, and typhoid fever all show a decrease, which is the most marked in the deaths from scarlet fever, the number of victims to this disease being less than for any year during the past eleven, and has dropped from 168 in 1884 to 137 in 1885, and to 48 in 1886, while during the past year we have had to record only 15 deaths.

Certificates of death have been filled out for 44 persons who died without a physician in attendance, and still-birth certificates furnished for 13 white and 83 colored still-born infants. In removing the remains of strangers or paupers who left no friends or others willing or able to assist in their removal it was sometimes found inconvenient to obtain volunteer help, causing delay and embarrassment. It is therefore suggested that the health officer ask that a proper conveyance and two able-bodied men be placed at the disposal of the department, in order that this part of the work may be done in a more seemly and expeditious manner.

My experience in the supervision of the registration of births, marriages, and deaths leads me to believe, in regard to marriages, that if the contracting parties were required to apply to this office for license to marry, instead of to the clerk of the court, as at present, the data necessary for record and the purpose of vital statistics could be easily obtained. A permit made returnable with the clergyman's certificate should then be issued to the minister selected to perform the marriage ceremony. In this way the registrar would be able to follow up the license and complete the record. As it is at present, Mr. Thomas, Richard, or Henry can, by paying one dollar, obtain a license from the clerk of the court, permitting any minister or other qualified person to marry any one in the directory, while no means exist by which it can be ascertained whether the license has been used for the purpose issued, unless the minister happens to consider it the proper thing to make a return, and does not forget to do so. The court license is the remains of a system applicable at a time when the court was the only place of public record; but now it is useless, leads to confusion as to the legal requirements of those making returns, and interferes with proper collection of records in this important branch of vital statistics.

Very respectfully, your obedient servant,

BEN. G. POOL, M. D.,
Medical Sanitary Inspector.

SMITH TOWNSHEND, M. D.,
Health Officer, District of Columbia.

THE DISPOSAL OF THE DEAD.

In my report for 1885 I mentioned as incidental to the report on a sanitary survey of the suburbs the question of cemeteries. I then said:

Washington, like every other growing city, is surrounded by burying-grounds, and as dwellings are fast approaching these resting-places of the dead, it is probable that in the near future we may be compelled to take into consideration the effect that our cemeteries may have upon the soil destined to hold homes and furnish water for the living. Where the population is scattered danger to health from this source is hardly to be apprehended, but where people are gathered closely together and a large number of deaths occur annually, the question of the disposition of human remains becomes one of serious consequence, and the public health is apt to suffer from the effects of close proximity of crowded cemeteries to the abodes of the living.

The question of the effect of crowded cemeteries upon the public health is one which has received consideration at the hands of the health authorities of both this country and Europe, and there is a growing sentiment to the effect that the true way of abolishing forever the nuisance of cemeteries is to burn the dead, and either to strew their ashes over the fields, as suggested by Sir Henry Thompson, or preserve them in columbaria.

When we consider the fact that something over 4,000 persons die and are buried annually here, and that we still use the water from 218 wells in the city, the importance of the subject will be apparent to all.

The question of the disposal of the remains of the large number of persons buried at the public expense is one that must confront us soon. Some parties in this city are now advocating the idea of building mausoleums, as resting places for the dead, and thus preventing the contamination of the earth and air. This is a very good proposition, but it would be too expensive for adoption in the disposal of the pauper dead.

These questions may not seem urgent to the masses, but it is well to commence their consideration now.

VITAL STATISTICS.

Four thousand six hundred and sixty-five deaths occurred in the District of Columbia during the year ending June 30, 1887. Of this num-

ber 1,343 were white males, 1,141 white females, 1,079 colored males, and 1,102 colored females.

The annual death-rate was 17.75 per thousand per annum for the white, 31.16 for the colored, and 22.21 for the total population. The population was estimated January 1, 1887, at 210,000 souls (140,000 white and 70,000 colored.) This estimate was arrived at by a consideration of the general census of 1880, the police census of 1885, and consultation with those qualified to judge as to the approximate number of inhabitants.

The mortality for the past year as compared with the preceding year by color, sex, and class of disease is shown in statements A and B, while in statement C is given the population, deaths, and death-rates, for the white, colored, and total population for the past twelve years. The maps and tables herewith submitted are believed to be of value not only as being condensed statements of many of the facts relating to deaths, marriages, births, and still-births, during the past year, but most of them having been prepared in a nearly uniform manner for a number of years, furnish additional material for deducing the natural laws relating to demography.

Table I exhibits the causes of death, arranged by classes, orders, and specific names, and also the death-rate by color, the total by color and sex, the monthly and quarterly mortality; the ages, social relation, and nativity of decedents, from each disease, order, class, and all causes, during the year. Following this table are others, showing the location of deaths, deaths under one year of age arranged monthly; deaths of children under five years of age; deaths from the principal diseases of children; number dying over seventy years of age; the average age of decedents dying from eighteen different diseases and suicide; deaths in hospitals; average ages of decedents by sex and color; number buried in the various cemeteries; and a table showing the daily and monthly mortality from all causes and the principal prevailing diseases, together with a daily and monthly summary of the meteorological observations taken at the office of the Chief Signal Officer of the Army during the fiscal year, and other statements which are amplifications of those and comparisons with those of former years.

I.—ZYMOTIC DISEASES.

Nine hundred and eighty-nine deaths, or 21 per cent., of the total mortality for the year fell in this class. The death-rate of the whites from zymotic diseases was 3.76 per 1,000 per annum; of the colored population 6.60, and there were 23 more males than females.

By reference to the last annual report it will be seen that July, 1885, furnished nearly 23 per cent. of the total deaths from zymotic diseases, while June, 1886, fell short of 10 per cent. During the past year, however, it has been different, July, 1886, giving only about 14 per cent. of the deaths, and June, 1887, reaching nearly 20 per cent. Thirty-six per cent. of children dying under 5 years of age come under, and give 65 per cent. of this class.

The zymotic class consists of four orders: The parasitic order, including thrush and worms, shows 5 deaths, all of children under 5 years of age. The enthetic order comes next with 26 deaths, 18 of which were due to congenital syphilis. Then follows the dietic order with 129 deaths. In this order we find 105 children whose deaths are attributed to inanition, and 22 adult deaths ascribed to the excessive use of alcohol.

Lastly, we have the miasmatic order with its 829 deaths, or nearly 18 per cent. of the total mortality of the year. Under the miasmatic order

we have the following diseases, arranged in the order of their frequency: First, the diarrhæal diseases, 393, an increase of 68 over last year, but a decrease of 6 from the year before. Next comes typhoid fever with 116 (72 white and 44 colored), the lowest since 1884. Then we have the malarial fevers, furnishing 99 deaths, and diphtheria 72 (55 whites and 17 colored); whooping cough 46; croup 25; typho-malarial fever 22; scarlet fever 15, (the lowest number from this disease in the last twelve years); measles 14; erysipelas 13; septicæmia 6; carbuncle 4; catarrhal fever 2; tonsilitis and pyæmia each 1.

II.—CONSTITUTIONAL DISEASES.

Constitutional diseases caused 1,171 deaths, or 25.10 per cent. of the total mortality. The decedents were 286 white males, 295 white females, 271 colored males, and 319 colored females. The annual death-rate of the white population from this class of diseases was 4.15 per 1,000 per annum; of the colored 8.49.

This class contains two orders, the diathetic and the tubercular. Cancers form the bulk of the former and consumption of the latter. Since September 1, 1874, there have been 1,066 deaths from cancer.

A marked difference in race susceptibility may be seen in the fact that 767 were white and only 299 were colored. A still greater difference exists as regards sex, 300 being males and 766 females.

The disease seems to prove most fatal between the ages of fifty and sixty years, so much so, that of the white females dying from all causes between fifty and sixty years of age 1 in every 8 is attributed to this disease; nor is the chance of escaping this cause of death much better for the white females dying between forty to fifty and sixty to seventy, as the returns show that 1 in 9 of the deaths between forty and fifty and 1 in 10 of those between sixty and seventy years of age are caused by cancer. The uterus, breast, and stomach are shown to be the organs most frequently affected. Conjugal relation also would appear to be an important factor in the etiology of cancer, as of 530 white females only 85 were single; and if we take only those cases in which the uterus was involved we find a still greater difference. The married lead with 125 deaths; 56 of the decedents are widows, while only 15 were single.

In the tubercular order consumption, as usual, holds the first place, having caused during the past year 736 deaths (a decrease of 60 from the preceding year), or 15.78 per cent. of the total mortality. Of this number 358 were white and 378 colored. The death-rate was 2.56 for the whites and 5.40 for the colored population. Forty-four decedents were under five years of age and 16 were over seventy. About 17 per cent. of the mortality from this disease was among white natives. A little over 17 per cent. were colored natives, 56½ per cent. were natives of other parts of the United States, and 9½ per cent. were of foreign birth.

III.—LOCAL DISEASES.

Under this class are eight orders corresponding to the different systems or organs of the body. Under the first order, that of the nervous system, there appeared 596 deaths, divided as follows as to race and sex: Two hundred white males, 131 white females, 149 colored males, and 116 colored females.

Under specific causes of death in this order the principal were: Apoplexy 115, convulsions 100, insanity 92, trismus nascentium 57, congestion of the brain 56, meningitis cerebral 45, paralysis 30, softening of brain 16, and inflammation of brain 11.

Under the circulatory organs we have 250 deaths, of which 233 belong to the heart.

Diseases of the respiratory organs caused 501 deaths, including pneumonia 251, bronchitis 129, congestion of lungs 73, and pleurisy 11.

Diseases of the digestive organs were not as fatal as last year by 29 deaths, having proved fatal in 304 cases.

Diseases of the urinary organs give the same number as last year, 136. The diseases of the generative organs were 22, 1 male and 21 females; other diseases affecting special parts, 8.

Summing up the various orders of this class we have a total of 1,817, or 38.94 per cent. of the total mortality; 1,016 white and 801 colored; or by sex, 1,004 males and 813 females.

IV.—DEVELOPMENTAL DISEASES.

The number of deaths registered under this class is 499 (247 white and 252 colored). Two hundred and sixty infants are found in this class who died from congenital defects or from some of the complications of labor. These children, together with those dying from inanition, diarrheal and other digestive diseases, furnish 57 per cent. of the total mortality under one year of age.

Puerperal complications caused 35 deaths (20 white and 15 colored), and 196 deaths were due to old age.

V.—VIOLENCE.

Under this head are arranged 189 deaths, 113 white and 76 colored; 141 males and 48 females. Of this number, 134 were due to accidents and negligence; there were 30 homicides including infanticides, 24 suicides, and 1 death attributed to injuries received during the late civil war. Under the list of accidents drowning stands at the head with 24 deaths, burns occupy the second place (16 deaths), and railroad accidents come in for the third place, with 13 deaths; morphia, aqua ammonia, aconite, bromidia, arsenic, bologna sausage, inhalation of illuminating gas, and lightning each caused 1 death. The 30 homicides include 20 infanticides. The 24 suicides are divided as to cause of death as follows: Pistol-shot wound of head, 9; drowned, 4; arsenic, 2, and from incised wound of throat, pistol wound of chest, chloroform, morphine, "rough on rats," hanging, fall from building, carbolic acid, and irritant poison, each 1.

BIRTHS.

The number of births reported during the year was 3,728, of which 1,053 were white males, 1,038 white females, 802 colored males, and 832 colored females, and 3 of either unknown sex or color.

This number exceeds the average of births for the last nine years by very nearly 200, or about 6 per cent. The ratio of births between the sexes and the races, as compared with the returns for that period, is quite evenly preserved.

The illegitimate births were 418, of whom 70 were white and 348 colored. The tables for nine years past give an average of 57 white bastards to 319 colored. While the present year exhibits no noticeable abnormal features in this regard, still it tends to show that the undue amount of illegitimacy among the colored people has assumed to such an extent the character of a permanent evil as to deserve and invite the sincere attention of philanthropists and social reformers. In this

connection an important phase of the subject is developed in the fact that of the 2,091 white children born 972 were attended by midwives, and of the 1,636 colored children only 406 were reported by physicians, while 1,230 were ushered into the world by midwives. Thus twenty-two hundred out of the thirty-seven hundred children born within the year were exposed to the ignorant and, in many cases, wholly unqualified manipulations of this class.

An additional as well as important consideration also arises, with reference to the preceding statements, in the death within a year of over one-third of those born, the precise number being 1,280, of whom 541 were whites and 739 colored.

STILL-BIRTHS.

Returns of 406 still-births were made during the year, of whom 149 were white and 253 colored, and 4 of unknown sex or color. One hundred and twenty-seven of the whites were born in wedlock and 22 were illegitimate, while of the colored 147 were legitimate and 106 were bastards. In the case of the whites, there were 6 legitimates to 1 illegitimate, and in that of the colored the proportion of 1 illegitimate to every $1\frac{1}{2}$ legitimate is presented. The usual absence of medical skill is as apparent here as in relation to the live-born children, there being only 233 certified by physicians, the greater portion of which came from public institutions, while the coroner and the midwives report the balance, with the exception of those certified by the sanitary inspector, wherein the special examination by this office was rendered necessary by the absence of all other responsible authority.

The still-born of this year bear a ratio to the live-birth of 1 to 9, very nearly. Medical authorities in Great Britain place the percentage of still-born to total deliveries in that country at about 3 per cent. The returns for the District of Columbia indicate a percentage of 9.5 in this respect, thus exhibiting a total of three times greater than that given by the English physicians.

The statement of these facts may suggest a remedy therefor. That this evil can be traced, in a very great degree, to the employment of cheap and unskilled midwives hardly admits of a doubt.

By adding the 406 still-births to the 1,280 children who died within twelve months after birth we have a total of 1,686, being nearly 1 to every $2\frac{1}{2}$ of all births who have deceased within a year after having been brought into existence; and by adding the same number to the 1,791 children under five years of age who died we have an aggregate of 2,197 children, out of the 4,134 births, who were lost to the world in that space of time. Of these, 893 were whites and 1,304 colored.

Of the 406 still-births 298 were on and over seven months' utero-gestation, and 183 completed the full period. Three cases of ten months' utero-gestation were reported, and only 15 of four months' gestation and under.

The principal causes alleged were "protracted labor," "premature birth," "over-work," and "falls" by mother. In 175 cases no cause was either assigned or could be ascertained.

MARRIAGES.

There were 1,061 marriages reported during the year, of which 739 were between white and 319 between colored couples, and 3 mixed, the grooms being white and the brides colored. This is the largest number of marriages reported to this office in any one year since its pres-

ent organization. Marriages for the first time, of both brides and grooms, were performed in 827 cases, and in 8 instances on the part of whites and in an equal number of colored both brides and grooms were joined in the bonds of matrimony for the third time. The foreign element represented in these connections amounted to 68 out of an aggregate of upwards of 1,000. Only 2 couples of whites and 2 couples of colored were under twenty years of age, and there were 5 white and 6 colored couples who were of fifty years of age and upward.

The subject of a change in the present system of issuing marriage licenses, so much needed to render the vital statistics of the District more full and complete, is discussed elsewhere in this report, and to which especial attention is directed.

DIVORCE.

The subject of divorce has assumed a phase of great importance in view of the greatly increased number of divorces granted by the courts of the country within the past few years. No records of those allowed by the courts of the District of Columbia are now kept except as they may be scattered through the court dockets in connection with the legal proceedings.

Next to marriage, divorce has a direct bearing upon the statistics embracing the social relations. Should the present deficiency in the returns of marriage be remedied by placing the issuing of licenses within the jurisdiction of the health office, then by requiring the District courts to make a certified return to the health officer of each divorce granted, the records of vital statistics in relation to marriage and divorce, as well as of life and death, would not only be complete, but would be of untold value to the public.

STATISTICAL REVIEW.

The number of births in the District of Columbia reported for the nine years from July 1, 1879, to June 30, 1887, inclusive, was 31,815, exclusive of still-births. The still-births are defined to be those who have never respired.

Within the same period of time there were recorded 40,660 deaths. Tabular statements and charts illustrative thereof have been prepared, by an examination of which it will be observed that the births fell short of the deaths by the sum of 8,845, or 21.75 per cent.

Of the births 17,593 were white and 14,222 were colored, and in regard to legal and social status, 17,075 were white legitimates and 11,343 were colored legitimates, while 518 were white illegitimates and 2,879 were colored illegitimates.

The percentage of births to deaths was, for the whole, 78.6.

The percentage of births to total births was, for the white, 53.6.

The percentage of births to total births was, for the colored, 35.7.

The percentage of white illegitimates to total births was 1.65.

The percentage of colored illegitimates to total births was 9.09.

The percentage of white illegitimates to total illegitimates was 15.02.

The percentage of colored illegitimates to total illegitimates was 84.8.

The still-births for the same period were 3,390, of whom 1,308 were white and 2,082 were colored. Thus, the average thereof was 377 per annum, being about 32 per month, or 10.7 per cent. to the whole number of births.

Of the still-born 925 were illegitimate, of whom 153 were white and 772 were colored. It will thus be seen that the illegitimates were over

one-fourth of all the still-born, and nearly 3 per cent. of the total births, and equal to 21.4 of all the illegitimately born, living and dead.

Taking the 3,397 illegitimates born alive, added to the 925 still-born illegitimates, and the whole number of this class of children born during the nine years amounts to 4,322, of whom 671 were white and 3,651 were colored, thus showing a percentage of 15.52 of white to 84.48 of colored.

This is the result as shown by official returns made through the various authentic channels by which this department receives its information. The total illegitimacy of the District of Columbia, as shown by the returns for the period under consideration, is 12.27 per cent. of all births, equal to about one-eighth of the whole. The great difference between the white and colored races in this respect is a prominent feature thereof. The subject of illegitimacy, with all the degradation and violation of the public conscience which the term implies, and as a corrupting element in the social body, is brought to the front as a matter for serious consideration and treatment. Many of these still-born unfortunates are found abandoned upon the open commons or cast away in obscure alleys or filthy sewers. While, as a general rule, the fathers thereof go unscathed, the mothers survive to lead a life of shame, at the expense, in the end, of the public treasury. Many of the children go through life with a stigma upon their origin, or with a taint of hereditary disease, both moral and physical, which places an impassable bar to respectable, useful, or self-sustaining careers, and which ultimately lands them as public charges in the infirmary or insane asylum.

During the twelve years from 1875 to 1886, inclusive, there were 53,297 deaths in the District of Columbia. Of this number 27,620 were of white persons and 25,667 were colored.

The average yearly mortality was: For the whites, 2,302; for the colored, 2,140; for the total population, 4,441.

The average monthly mortality was: For the whites, 191.8; for the negroes, 178.3; for the total, 370.1.

The average daily mortality was: For the whites, 6.30; for the colored, 5.86; for the total population, 12.16.

The highest number of deaths occurring in one month was 595 in July, 1885. Of this number the whites furnished 323 and the colored race 272. The lowest monthly mortality for the whites was 129 in October, 1879; for the colored, 119 in November, 1876; and for the total population, 254 in November, 1876.

To more fully illustrate the data collected, a series of charts have been prepared which show the number of births and still-births reported, including the relations of legitimacy and illegitimacy, and of births to still-births, for the nine years from 1879 to 1887, inclusive; and, also, the actual number of deaths for the twelve years from 1875 to 1886, inclusive, by color, for each month; the year in which the calendar months presented the highest and lowest number of deaths; and the mean number of deaths, by color, for each month.

A chart has also been drawn to show the relation between the months and the deaths at certain periods of life, in which the mean number of deaths of persons over sixty years, less those by violence, and of children under five years of age, based upon the returns of the seven years ending June 30, 1887, are illustrated.

All of which is respectfully submitted.

SMITH TOWNSHEND, M. D.,
Health Officer.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

APPENDICES
TO THE
REPORT
OF THE
HEALTH OFFICER
OF THE
DISTRICT OF COLUMBIA.

TABLE I.—Showing total number of deaths occurring in the District of Columbia, arranged by classes, orders, sex, color, months, quarters, ages, nativity, etc., with percentages and death-rates, for the year ending June 30, 1887.

Cause of death.	Total deaths from each cause.	Per cent. of each cause to total mor- tality.	DEATH-RATE.		RECAPITULATION.										1886.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			Deaths per 1,000 inhabitants.		Total by color and sex.					Total by color.		Total by sex.		July.			August.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			W.	C.	M.	F.	M.	F.	W.	C.	M.	F.	M.	F.	W.	M.	F.	W.	M.	F.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CLASS I.—ZYMOTIC DISEASES.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Order 1.—Miasmatic.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Measles.....	14	.300	.078	.043	5	1	2	11	3	6	8	6	3	8	6	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1886.												1887.																
	September.			Total first quarter.			October.			November.			December.			Total second quarter.			January.										
	W.		C.	W.	M.	F.	W.	M.	F.	W.	M.	F.	W.	M.	F.	W.	M.	F.	W.	M.	F.								
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.									
CLASS I.—ZYMOTIC DISEASES.																													
Order 1.— <i>Miasmatic.</i>																													
Measles																													
Scarlet fever																													
Typhoid fever	6	2	4	3	16	16																							
Typho-malarial fever	2	1			4	3																							
Congestive fever	2			1	3	1																							
Intermittent fever	3	1	2	1	3	3																							
Remittent fever	2	1	1	1	2	4																							
Malarial fever	3	3	2	8	4	4																							
Catarrhal fever																													
Diphtheria																													
Croup		5		2	2	12																							
Whooping-cough	1	3	4	3	3	8																							
Tonsillitis																													
Erysipelas																													
Pyæmia																													
Septicæmia																													
Carbuncle	2																												
Cholera morbus																													
infantum																													
Dysentery	5	4	2	2	32	16																							
Diarrhœa		2		1	4	9																							
Enterocolitis	3	3	4	4	7	12																							
Total miasmatic diseases	29	27	21	26	94	102	75	84	21	17	23	20	19	17	7	6	10	9	6	9	50	43	36	35	5	10	2	2	
Order 2.— <i>Enthetic.</i>																													
Syphilis, congenital																													
tertiary																													
variety not stated				1																									
Total enthetic diseases				1																									
Order 3.— <i>Dietic.</i>																													
Inanition	2	4	7	1	5	7	19	11	4	3	4	2	2	1	2	3	1	2	1	2	1	7	6	6	6	1	3	2	2

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.: Continued

[illegible]

Purpura.....	12	19	40	25	1	1	27	20	30	9	8	8	9	5	7	6	3	10	8	6	2	154	147	183	162	105	5,863
Alcoholism.....																											
Total dietic diseases.....	1	1	2																								
Order 4.—Parasitic.																											
Thrush.....	1	1	1																								
Worms.....																											
Total parasitic diseases.....	1	1	2																								
Total zymotic diseases.....	105	97	143	118	25	1	27	20	30	9	8	8	9	5	7	6	3	10	8	6	2	154	147	183	162	646	36,070

CLASS II.—CONSTITUTIONAL DISEASES.

Order 1.—Diathetic.

Rheumatism.....																											
Gout.....																											
Dropsy.....				1			1	1					1														
Epistaxis.....			1																								
Leucocythæmia.....																											
Anæmia.....	1																1										
Hodgkin's disease.....																											
Hæmatophilla.....																											
Basedow's disease.....																											
Cancer of axilla.....																											
breast.....																											
face.....																											
head.....																											
heart.....																											
hip.....																											
liver and spleen.....																											
liver.....																											
mouth.....																											
nose.....																											
neck.....																											
œsophagus.....																											
pancreas.....																											
rectum.....																											
stomach.....																											
stomach and liver.....																											
shoulder.....																											
tongue.....																											
uterus.....																											
windpipe.....																											
retroperitoneal.....																											
not located.....																											
Cancerous cachexia.....																											
Cancerum oris.....		1									1														2		.111
Total diathetic diseases.....	1	1	1	1			1	1	1		1	1	1				1					1	2	2	4	9	.501

[illegible][illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or widower.			Unknown.			District of Columbia.				Other parts of United States.				Foreign.			
	W.		C.	W.		C.	W.		C.	F.	M.	F.	M.	C.	W.		C.	F.
	M.	F.	M.	M.	F.	M.	M.	F.	M.	F.	M.	F.	M.	C.	M.	F.	M.	F.
CLASS I.—ZYMOTIC DISEASES.																		
Order 1.— <i>Miasmatic.</i>																		
Measles.....							5	5										
Scarlet fever.....							4	6										
Typhoid fever.....	2	2					12	22	7	10	16	11	3	10	7	1		
Typho-malarial fever.....	1	1					1	1	5	1	3	2	1	2	1		1	
Congestive fever.....							1	2	1	1	1		3	3	3			
Intermittent fever.....							3	3	5	2	1		1	1	1			
Remittent fever.....	4	1					1	3	3	3	2		2	5	1			
Malarial fever.....	2	3	5				2	6	5	8	4	7	1	7	1			
Catarrhal fever.....								1	1									
Diphtheria.....								22	7	8		9		2	1			
Croup.....							21	4	2	3	1	2						
Whooping cough.....							11	10	15	10	1	2						
Tonsillitis.....							7	1										
Erysipelas.....	1						2	2	2	2		2		1	1			
Pyæmia.....	1						1											
Septicæmia.....							3	2		1								
Carbuncle.....	1																	
Cholera morbus.....	1																	
Cholera morbus infantum.....																		
Dysentery.....	1	5			1		58	33	38	50	2	1	2	2				
Diarrhoea.....	1	5					3	5	3	2	1	2	2	4	1			
Enterocolitis.....	1	2			2		11	9	24	24	2	6	2	3	5	1		
Total miasmatic diseases.....	7	24	4	8		1	161	155	137	147	53	49	38	44	22	20	1	1
Order 2.— <i>Enthetic.</i>																		
Syphilis, congenital.....							3		8	4								
tertiary.....							1	3						1	1			
variety not stated.....	1									1		1		1				
Total enthetic diseases.....	1						4	3	8	5	1	1	1	2	1			
Order 3.— <i>Dietic.</i>																		
Inanition.....	1						15	17	41	28	3		1				1	

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent. of each cause to total mor- tality.	DEATH-RATE.		RECAPITULATION.										1886.					
			Deaths per 1,000 inhabitants.		Total by color and sex.					Total by color.		Total by sex.		July.			August.			
			W.	C.	W.		C.			W.	C.	M.	F.	M.	F.	W.	M.	F.		
					M.	F.	M.	F.	M.										F.	
CLASS II.—CONSTITUTIONAL DISEASES.																				
Order 2.—Tubercular.																				
Marasmus	99	2.119	.285	.842	19	21	32	27	40	59	51	48	1	2	4	2	1	4	3	
Scrofula	22	.472	.015	.286		2	14	6	2	20	14	8		1		1			1	
Tuberculosis	46	.986	.136	.385	10	9	18	9	19	27	28	18			1		2			
Hydrocephalus	10	.215	.036	.072	3	2	4	1	5	5	7	3	1					1		
Potts' disease	11	.237	.029	.100	2	2	3	4	4	7	5	6						2		
Hip joint disease	1	.021	.007		1				1		1									
Rickets	11	.237	.029	.100	1	3	3	4	4	7	4	7								
Tubercular meningitis	30	.643	.142	.143	13	7	5	5	20	10	18	12	1	2	1	2				
enteritis	18	.386	.036	.186	2	3	7	6	5	13	9	9						1		
peritonitis	2	.043		.029			1	1		2	1	1						2	1	
Consumption	736	15.777	2.557	5.400	189	159	167	211	358	378	356	380	13	14	13	18	12	15	14	
Total tubercular diseases	986	21.136	3.272	7.543	240	218	254	274	458	528	494	492	17	20	23	23	17	23	20	
Total constitutional diseases	1,171	25.102	4.150	8.428	286	295	271	319	581	590	557	614	21	26	26	28	21	25	21	
CLASS III.—LOCAL DISEASES.																				
Order 1.—Nervous system.																				
Meningitis, cerebral	45	.966	.236	.172	17	16	6	6	33	12	23	22	2	2	1		3	2		
spinal	5	.107	.014	.043	1	1		3	2	3	1	4								
cerebro-spinal	20	.428	.050	.185	4	3	8	5	7	13	12	8			1		1		1	
Brain disease	1	.021		.014				1		1		1								
Inflammation of brain	11	.237	.050	.057	3	4	2	2	7	4	5	6		1			1			
Softening of brain	16	.344	.093	.043	8	5	2	1	13	3	10	6					2		1	
Congestion of brain	56	1.200	.307	.185	23	20	8	5	43	13	31	25	2	4	1	1	1	2	1	
Abscess of brain	1	.021		.014			1			1	1									
Tumor of brain	1	.021	.007		1						1									
Apoplexy	115	2.466	.558	.530	46	32	17	20	78	37	63	52	8	1	1	2	3	1	2	
Insanity	92	1.973	.465	.387	52	13	18	9	65	27	70	22	3	1	1	2	3	1	2	
Anæmia of the brain	1	.021		.014			1			1	1									
Epilepsy	8	.171	.028	.057	2	2	2	2		4	4	4					1	3	2	
Convulsions	100	2.143	.207	1.014	16	13	34	37	29	71	50	50	1	1	2	7	4	1	2	
Trismus nascentium	57	1.222	.114	.585	11	5	28	13	16	41	39	18	1	1	2		1	1		
Tetanus (idiopathic)	3	.064		.043			3			3	3									

Chorea.....	1	.021	.007		1	2	4		1	4	4	1	1	2	6	247	19	12	10	13	17	12	8	12	
Hemiplegia.....	8	.171	.028		1	2	4		1	4	4	1	1	2	6	247	19	12	10	13	17	12	8	12	
Paraplegia.....	8	.171	.057		1	3	2		1	4	4	1	1	2	5	247	19	12	10	13	17	12	8	12	
Paralysis, general.....	30	.643	.100	.229	7	7	8		1	16	15	1	1	1	15	247	19	12	10	13	17	12	8	12	
Progressive locomotor paralysis.....	3	.064	.022		1	2			1	3	1			1	1	247	19	12	10	13	17	12	8	12	
Spinal myelitis.....	1	.021	.014						1	1				1		247	19	12	10	13	17	12	8	12	
Sunstroke and prostration by heat.....	6	.129	.007		1		4		1	5	5		1	1	5	247	19	12	10	13	17	12	8	12	
Embolism, cerebral.....	4	.086	.022	.014	3		1			1	1			1	1	247	19	12	10	13	17	12	8	12	
Multiple neuritis.....	1	.021	.007		1					1	1			1	1	247	19	12	10	13	17	12	8	12	
Spinal disease.....	2	.043	.014		1					2				1	1	247	19	12	10	13	17	12	8	12	
Total diseases of the nervous system.....	596	12.775	2.364	3.786	200	131	149	116		331	265	349			247	19	12	10	13	17	12	8	12		
Order 2.—Circulatory organs.																									
Aneurism of axillary artery.....	1	.021	.007			1				1					1										
Pericarditis.....	8	.171	.014				4	2		2	6			2	2										
Endocarditis.....	3	.064	.014					1		2	1			1	1										
Fatty degeneration of heart.....	7	.150	.029		3		2	1		4	3	3		4	4						1				
Dilatation of heart.....	8	.171	.039	.043	3	3	1	2		5	3	3		1	5			1	1						
Hypertrophy of heart.....	3	.064	.043				1	2			3	1		2	2										
Valvular disease of heart.....	120	2.573	.579	.559	35	46	19	20		81	89	54		3	68			3	3						
Heart disease (undefined).....	83	1.780	.307	.572	20	23	16	24		43	40	36		2	47			1							
Neuralgia of heart.....	1	.021		.014				1			1			1	1										
Aneurism of subclavian artery.....	1	.021		.014			1				1				1										
Angina pectoris.....	5	.107	.029	.014	3		1			4	1	4		1	1										
Embolism.....	3	.064	.014		1	1	1			2	1	2		2	1			1							
Aneurism of thoracic aöorta.....	1	.021	.007		1					1		1		1	1										
abdominal aöorta.....	2	.043	.014		2					2		2		2	2										
Internal hæmorrhage.....	1	.021	.007		1					1		1		1	1										
Calcification of aöorta.....	1	.021	.007		1					1		1		1	1										
Atheroma of aöorta.....	2	.043	.007	.014	1		1			1	1	2		1	2										
Total circulatory organs.....	250	5.356	1.071	1.430	72	78	47	53		150	100	119			131	7	2	3	4	4	5	4	3		
Order 3.—Respiratory organs.																									
Laryngitis.....	4	.086	.029		3	1				4		3			1										
Asthma.....	9	.192	.036	.057	1	4	4			5	4	5			4										
Bronchitis.....	129	2.764	.357	1.128	25	25	37	42		50	79	62			67										
Pneumonia.....	251	5.378	.872	1.843	75	47	68	61		122	129	143			108			1	4	4	2	1	3		
Congestion of lungs.....	73	1.564	.307	.430	24	19	17	13		43	30	41			32			2	1	2	2	1	6		
Pleurisy.....	11	.237	.065	.029	3	6	2			9	2	5			6			1					2		
Hæmorrhage of lungs.....	13	.280	.057	.072	4	4	3	2		8	5	7			6								1		
Pulmonary apoplexy.....	2	.043	.007	.014		1		1		1	1				2				1						
Gangrene of lung.....	1	.021		.014				1			1				1				1						
Abscess of lung.....	4	.086	.021	.014	3		1			3	1				1							1			
Emphysema.....	2	.043	.014		1	1				2	1	1			1										
Pulmonary catarrh.....	1	.021	.007	.014				1		1					1										
collapse.....	1	.021	.007			1				1					1										
Total respiratory diseases.....	501	10.736	1.772	3.615	139	109	132	121		248	253	271			230	3	3	3	10	5	6	3	12		

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.																Per cent. of each cause to total mor-tality un-der 5 years of age.					
	Under 1 year.				1 to 2 years.				2 to 3 years.				3 to 4 years.					4 to 5 years.				Total.
	W.		C.		W.		C.		W.		C.		W.		C.			W.		C.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		M.	F.			
CLASS II.—CONSTITUTIONAL DISEASES.																						
Order 2.—Tubercular.																						
Marasmus	15	16	22	21	3	3	4	3	1	2	1	2	1	1	19	20	30	25	94	5.248		
Scrofula	2	2	5	2			5	3								2	11	5	18	1.004		
Tuberculosis	2	1	3	2			1	1							3	1	4	4	12	.670		
Hydrocephalus	2	2	2		1		1							1	3	2	3	1	9	.503		
Potts' disease																	1		1	.056		
Hip-joint disease																						
Rickets		1	1	2		1	2	1								2	3	4	9	.503		
Tubercular meningitis	5	1		1	4	3	1	1		1					10	5	1	4	20	1.117		
enteritis		1	2					2		1						2	4	2	8	.446		
peritonitis																						
Consumption	1	2	1	4		2	7	8			5	3		3	1	4	16	23	44	2.456		
Total tubercular diseases	25	26	36	32	8	9	21	19	2	2	8	6	1	6	7	36	38	73	215	12.003		
Total constitutional diseases	26	27	37	33	8	9	22	20	7	3	8	7	1	6	8	37	40	75	224	12.505		
CLASS III.—LOCAL DISEASES.																						
Order 1.—Nervous system.																						
Meningitis, cerebral	6	3	2	3	1	3		1	2	2	1	1	1		10	8	3	6	27	1.507		
spinal								1										2	2	.111		
cerebro-spinal	2		4	2			1	1			1				2		6	3	11	.614		
Brain disease	1	1	1				1	1							1	1	2	1	1	.056		
Inflammation of brain																			5	.279		
Softening of brain																						
Congestion of brain	8	4	1	1	2	4		1	1	1	1				11	12	2	2	27	1.507		
Abscess of brain																						
Tumor of brain																						
Apoplexy	1	1			1	1		1					1		2	3		1	6	.335		
Insanity																						
Anæmia of the brain																						
Epilepsy																						
Convulsions	12	11	28	29	1	1	3	4	1		1	2	2		16	12	32	36	96	5.363		
Trismus nascentium	11	5	28	13											11	5	28	13	57	3.183		
Tetanus (idiopathic)			1														1		1	.056		

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or widower.			Unknown.			District of Columbia.				Other parts of United States.				Foreign.			
	W.		C.	W.		C.	W.		C.	F.	M.	F.	M.	W.	M.	F.	C.	Unknown.
	M.	F.		M.	F.		M.	F.										M. F.
CLASS II.—CONSTITUTIONAL DISEASES.																		
Order 2.— <i>Tubercular.</i>																		
Marasmus	1						18	18	32	25	1	2						
Scrofula			1					2	14	5								
Tuberculosis	2	3	1				3	5	11	3	4	3	7		2	1		
Hydrocephalus							3	1	4	1		1						
Potts' disease							2	2	1	2			2					
Hip joint disease											1							
Rickets																		
Tubercular meningitis	1						12	5	5	5	1	1						
enteritis			1				1	2	6	1			1					
peritonitis										1								
Consumption	20	40	12	32			65	58	57	70	83	83	110	41	28		1	1
Total tubercular diseases	20	44	15	35			105	95	133	120	91	93	120	43	30	1	1	1
Total constitutional diseases	25	71	19	59			112	113	136	136	117	132	134	56	50	1	1	2
CLASS III.—LOCAL DISEASES.																		
Order 1.— <i>Nervous system.</i>																		
Meningitis, cerebral							11	11	5	6	5	4	1		1			
spinal	1							1		3	1							
cerebro-spinal							3	1	5	4	1	2	3					
Brain disease										1								
Inflammation of brain	1	1					2	3	1	1	1	1	1					
Softening of brain	3						2			1	3	3	2	3	2			
Congestion of brain	4		1				13	14	4	2	5	5	4	4	1			
Abscess of brain									1									
Tumor of brain											1							
Apoplexy	7	15	4	11			6	7		4	31	18	16	9	7			1
Insanity	4	2	2	4	2	1	2	6	2	3	28	4	15	22	3			1
Anæmia of the brain																		
Epilepsy			1				2	1				1	2					
Convulsions							16	13	33	35			1					
Trismus nascentium							11	5	28	13			1					
Tetanus (idiopathic)									1				2					

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Hepatic sarcoma.....	1	.021	1.284	.007	1	69	69	55	180	124	1	180	124	8	4	11	6	9	8	8
Total diseases of digestive organs.....	304	6.516	1.284	1.772	111	14	14	7	33	16	26	26	16	23	1	2	1	2	1	1
Order 5.— <i>Urinary organs.</i>																				
Bright's disease.....	49	1.050	.236	.229	19	14	14	7	33	16	26	26	16	23	1	2	1	2	1	1
Nephritis.....	24	.516	.079	.186	6	5	5	8	11	13	14	14	13	10	1	1	1	1	1	1
Albuminuria.....	13	.280	.050	.086	3	4	4	2	7	6	5	5	6	8	1	1	1	1	1	1
Pyelitis.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fatty degeneration of kidney.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Addison's disease.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Uræmia.....	6	.128	.036	.014	1	4	4	1	5	1	1	1	1	5	1	1	1	1	1	1
Prostatitis.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diabetes.....	13	.280	.072	.043	7	3	3	2	10	3	9	9	3	4	1	1	1	1	1	1
Fistula of urethra.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Cystitis.....	15	.322	.093	.029	13	13	13	1	13	2	13	13	2	2	1	1	1	2	1	1
Paralysis of bladder.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Enlarged prostate gland.....	2	.043	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tumor of bladder.....	1	.022	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Granular degeneration of kidney.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gouty kidney.....	1	.022	.007	.014	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Renal congestion.....	2	.043	.014	.014	1	2	2	1	2	1	1	1	1	2	1	1	1	1	1	1
dropsy.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Organic disease of kidney.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Abscess of kidney.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total diseases of urinary organs.....	136	2.916	.629	.685	54	34	34	26	88	48	80	80	48	56	2	3	3	6	2	1
Order 6.— <i>Generative organs.</i>																				
Fibroids of uterus.....	4	.087	.021	.014	3	3	3	1	3	1	1	1	1	4	1	1	1	1	1	1
Fibrocystic uterus.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Metritis.....	2	.043	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Amenorrhœa.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Uterine hæmorrhage.....	3	.064	.015	.014	2	2	2	1	2	1	1	1	1	3	1	1	1	1	1	1
Hæmatocele.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ovaritis.....	4	.087	.028	.014	4	4	4	1	4	1	1	1	1	4	1	1	1	1	1	1
Cyst of broad ligament.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ovarian tumor.....	3	.064	.015	.014	2	2	2	1	2	1	1	1	1	3	1	1	1	1	1	1
Perineal fistula.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pelvic cellulitis.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total diseases of generative organs.....	22	.471	.114	.084	1	15	15	6	16	6	1	1	6	21	2	1	1	1	1	1
Order 7.— <i>Osseous and locomotory.</i>																				
Inflammation of knee-joint.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Suppuration of knee-joint.....	1	.022	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Necrosis of ankle-joint.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
femur.....	1	.022	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gangrene of foot.....	1	.021	.007	.014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total osseous and locomotory.....	5	.107	.014	.042	2	2	2	3	2	3	2	2	3	3	2	2	2	2	2	2

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TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.											
	5 to 10 years.			10 to 20 years.			20 to 30 years.			30 to 40 years.		
	W.	M.	F.	W.	M.	F.	W.	M.	F.	W.	M.	F.
Stomatitis												
Dentition												
Ulcerated throat					1							
Constriction of œsophagus					1							
Gastritis	1		1							2	1	
Gastro-enteritis			1		1					1	1	
Enteritis	2		1							3	2	
Hæmorrhage of stomach												
Paralysis of bowels												
Indigestion and dyspepsia										1	1	
Gastralgia												
Colic			1							1	1	
Ulceration of bowels												
Obstruction of intestines										1	1	
Intussusception												
Perityphlitis												
Hernia												
Stricture of intestines												
Peritonitis	1									1	1	
Abdominal abscess												
Tympanitis												
Disease of liver												
Hepatitis			1							3	1	
Congestion of liver												
Atrophy of liver												
Enlargement of liver										1	1	
Cirrhosis of liver										2	2	
Abscess of liver												
Sclerosis of liver										1	1	
Jaundice												
Acute yellow atrophy of liver												
Fistula in ano												
Amyloid spleen												

CLASS III.—LOCAL DISEASES.

Order 4.—Digestive.

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc. Continued.

Cause of death.	RACIAL RELATIONS						NATIVITY					
	Whites or not known.			Unknown			District of Columbia.			Other parts of United States.		
	W.	C.		W.	C.		W.	C.		W.	C.	
		M.	F.		M.	F.		M.	F.		M.	F.
Stomatitis												
Dentition							16	0	1	2	1	1
Ulcerated throat												
Constriction of esophagus												
Gastritis	2	2		1			7	4	1	4	1	1
Gastro-enteritis	1	1					6	3	3	7	1	1
Enteritis	1	2					0	0	0	2	1	1
Hæmorrhage of stomach		1								1		
Paralysis of bowels							2		1			
Indigestion and dyspepsia	1						2	4	2	3		
Gastralgia												
Colic							1		1	2		
Ulceration of bowels	1											
Obstruction of intestines												
Intussusception	1						1		1			
Perityphilitis												
Hernia	1											
Stricture of intestines												
Peritonitis	1											
Abdominal abscess	1			1				4		1		
Typhoid												
Disease of liver	1						1					
Hepatitis	1						2					
Congestion of liver	1						1					
Atrophy of liver												
Enlargement of liver												
Cirrhosis of liver							1		1			
Abscess of liver							1			1		
Sclerosis of liver	1											
Jaundice	1											
Acute yellow atrophy of liver												
Fistula in ano	1											
Amyloid spleen	1											

CLASS III.—LOCAL DISEASES.

Order 4.—Digestive.

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TABLE 1.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1886.																		1887.		
	September.			October.			November.			December.			Total second quarter.			January.					
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.			
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.				
CLASS III.—LOCAL DISEASES.																					
Order 8.—Integumentary.																					
Otitis.....																					
Abscess.....						1															
Total integumentary diseases.....						1															
Total local diseases.....	50	44	27	34	30	31	45	30	26	44	37	40	35	146	101	111	92	41			
CLASS IV.—DEVELOPMENTAL DISEASES.																					
Order 1.—Children.																					
Premature birth.....	3	4	5	10	11	9	9	3	1	5	2	3	2	6	8	10	7	2			
Congenital debility.....			1	2	1	9	8	2			3	4	1	3	3	12	6	1			
malformation.....							1														
Atelectasis pulmonum.....		1												1							
Spina bifida.....						1															
Cyanosis.....	1			1		1				1					1						
Sudden birth.....																					
Pressure on cord.....										1					1						
Prolonged labor.....		1								1					1						
Craniotomy.....														1	1						
Icterus neonatorum.....			2	1		2	1							2		1					
Umbilical hæmorrhage.....																					
Cleft palate.....																					
Erysipelas.....																					
Face presentation—instrumental delivery.....																					
Preternatural labor.....																					
Total diseases of children.....	4	6	8	14	14	22	19	6	4	9	5	1	8	6	7	2	8	3			
Order 2.—Women.																					
Puerperal nephritis.....																					
Milk leg.....						1															
Puerperal convulsions.....																					

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

1887.																					
Cause of death.	February.			March.			Total third quarter.			April.			May.			June.			Total fourth quarter.		
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.	

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.					
	Widow or widower.			Unknown.			District of Columbia.			Other parts of United States.		
	C.		W.		C.		W.		C.		W.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
CLASS III.—LOCAL DISEASES.												
Order 8.—Integumentary.												
Otitis												
Abscess												
Total integumentary diseases.....												
Total local diseases.....	73	138	29	70	6	2	200	171	240	210	245	183
										165	181	165
CLASS IV.—DEVELOPMENTAL DISEASES.												
Order 1.—Children.												
Premature birth.....							28	25	29	30		
Congenital debility							13	13	33	41		
malformation.....								2		2		
Atelectasis pulmonum.....							3	2	2	2		
Spina bifida.....								1	1			
Cyanosis							5	6				
Sudden birth								1				
Pressure on cord							1	1				
Prolonged labor							1	2				
Craniotomy							1					
Icterus neonatorum.....							4		2	1		
Umbilical hæmorrhage.....									4			
Cleft palate							1					
Erysipelas								1				
Face presentation—instrumental delivery.....									1			
Preternatural labor							1					
Total diseases of children.....							58	54	72	76		
Order 2.—Women.												
Puerperal nephritis.....												
Milk leg								1		1		
Puerperal convulsions.....								2		4		

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent. of each cause to total mor- tality.	DEATH-RATE.		RECAPITULATION.										1886.					
			Deaths per 1,000 inhabitants.		Total by color and sex.					Total by color.			Total by sex.		July.			August.		
			W.	C.	W.		C.		W.	C.	M.	F.	W.	M.	F.	W.	M.	F.		
					M.	F.	M.	F.												
CLASS V.—VIOLENCE.																				
Order 1.—Accidents and negligence—Continued.																				
Injuries from machinery.....	2	.043	.007	.014	1		1					1								
Injury by carriage pole.....	1	.021	.007		1							1								
received in brick machine.....	1	.021	.007		1							1								
Multiple injury.....	3	.064	.022		3							3				1				
Tetanus from nail in foot.....	2	.043	.007	.014	1	1	1					1					1			
injury to foot.....	1	.021	.007		1							1								
blow on head.....	1	.021	.007	.014	1	1	1					1								
Exposure.....	1	.021	.007		1							1								
Neglect.....	3	.064	.007	.029	1	1	1					1				1				
Abdominal concussion.....	1	.021	.007		1							1								
Railroad accident.....	13	.280	.051	.087	7	3	3	7	6	10										
Run over by Herdic coach.....	2	.043	.007	.014	1	1		1	1	1						1				
cart.....	1	.021	.007		1			1		1										
street car.....	1	.021	.007	.014			1			1										
Landanum.....	1	.021	.007			1		1												
Scald.....	1	.086	.022	.014	2	1		1	1	2										
Burn.....	16	.344	.044	.144	3	3	4	6	10	7						1				
Morphia.....	1	.021		.014				1		1										
Aqua ammonia.....	1	.021	.007		1					1										
Aconite.....	1	.021	.007		1					1										
Bromidia.....	1	.021	.007			1				1										
Arsenic.....	1	.021	.007			1				1										
Bologna sausage.....	1	.021		.014			1			1										
Inhalation of illuminating gas.....	1	.021		.014				1	1	1										
gas from coal stove.....	1	.021		.014						1										
ether.....	1	.021	.007			1				1							1			
Surgical operation.....	1	.021		.014			1			1										
Urethrotomy.....	1	.021		.014			1			1										
Dislocation of shoulder.....	1	.021					1			1										
Caught under embankment.....	2	.043	.007	.014	1		1			1										
Lightning.....	1	.021	.007	.014																
Total accidents and negligence.....	134	2.872	.607	.700	74	11	29	20	85	49	103	7	5	3	5	4	1			

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1886.												1887.								
	September.			Total first quarter.			October.			November.			December.			Total second quarter.			January.		
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.	C.	
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.	
CLASS V.—VIOLENCE.																					
Order 1.—Accidents and negligence—Continued.																					
Injuries from machinery.....																					
Injury by carriage pole.....																					
Injury received in brick machine.....				1															1		
Multiple injury.....					1																
Tetanus from nail in foot.....		1			1	1															
injury to foot.....						1													1		
blow on head.....																					
Exposure.....				1																	
Neglect.....			1				1												1		
Abdominal concussion.....	1																				
Railroad accident.....	1			1	1			1											2	2	
Run over by Herdic coach.....						1	1												1		
cart.....							1												1		
street car.....																					
Landanum.....																					
Scald.....	1				1				1										1		
Burn.....			1																		
Morphia.....						2	1												3	2	
Aqua ammonia.....																			1	1	
Aconite.....											1										
Bromidia.....																					
Arsenic.....																			1	1	
Bologna sausage.....																					
Inhalation of illuminating gas.....																					
gas from coal stove.....																					
ether.....						1															
Surgical operation.....																			1		
Urethrotomy.....																					
Dislocation of shoulder.....																					
Caught under embankment.....																			1		
Lightning.....																					
Total accidents and negligence.....	5	1	3	17	4	7	6	6	2	1	6	4	4	2	4	4	2	16	8	7	6

Order 2.—Judicial executions.

Hanged.

Order 3.—*Homicides.*

Fracture of skull.

Incised wound of abdomen.
wound

Pistol-shot wound of head.

liver and

Blow on head

Infanticide, neglect.

smothered
strongly

strangul
hemorrh

Order 5.—Suicides.

Incised wound of larynx and pharynx

Drowned.

Pistol-shot wound of head..

chest.

Chloroform
Morphine

Morphine..... Rough on rats

Arsonic.....

Arsonic..... Hanging.....

Fall from building.....

Carbolic acid.....

Irritant poison.....

1997

Order 5.—Injuries received during the late civil war.

Injuries.

Total injuries received during late civil war.

Total violence

Total from all causes

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.														Per cent. of each cause to total mor- tality un- der 5 years of age.		
	Under 1 year.			1 to 2 years.			2 to 3 years.			3 to 4 years.			4 to 5 years.			Total.	
	W.		C.	W.		C.	W.		C.	W.		C.	W.				C.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
CLASS V.—VIOLENCE.																	
Order 1.—Accidents and negligence—Continued.																	
Injuries from machinery.....																	
Injury by carriage pole.....																	
received in brick-machine.....																	
Multiple injury.....																	
Tetanus from nail in foot.....																	
injury to foot.....																	
blow on head.....																	
Exposure.....																	
Neglect.....	1		1	1										1	1	3	.168
Abdominal concussion.....																	
Railroad accident.....																	
Run over by Herdic coach.....																	
cart.....																	
street car.....																	
Landanum.....	1																.056
Scald.....																	.168
Burn.....																	.334
Morphia.....																	.056
Aqua ammonia.....																	
Aconite.....																	
Bromidia.....																	
Arsenic.....																	
Bologna sausage.....																	.056
Inhalation of illuminating gas.....																	
gas from coal stove.....																	
ether.....																	
Surgical operation.....																	
Urethrotomy.....																	
Dislocation of shoulder.....																	
Caught under embankment.....																	
Lightning.....																	
Total accidents and negligence.....	1	1	2	3	1		1	2		2		2	5	6	7	20	1.117

Order 2.—*Judicial executions.*

Hanged

Order 3.—Homicides.

[illegible]

Order 5.—*Suicides.*

[illegible]

Order 5.—Injuries received during the late civil war.

[illegible]

Order 2.—Judicial executions.

Hanged.....

Order 3.—Homicides.

Fracture of skull
Incised wound of abdomen.....
wound
Pistol-shot wound of head
liver and stomach
chest
Blew on head.....
Infanticide, neglect
smothered
strangulation
hæmorrhage of cord

Total homicides

Order 4.—Suicides.

Incised wound of larynx and pharynx.....
Drowned
Pistol-shot wound of head
chest.....
Chloroform
Morphine.....
Rough on rats
Arsenic.....
Hanging.....
Fall from building.....
Carbolic acid
Irritant poison

Total suicides

Order 5.—Injuries received during the late civil war.

Injuries

Total injuries received during late civil war.....

Total violence

Total from all causes

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or widower.			Unknown.			District of Columbia.				Other parts of United States.				Foreign.			
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
CLASS V.—VIOLENCE.																		
Order 1.—Accidents and negligence—Continued.																		
Injuries from machinery																		
Injury by carriage pole																		
received in brick machine																		
Multiple injury																		
Tetanus from nail in foot																		
injury to foot																		
blow on head																		
Exposure																		
Neglect																		
Abdominal concussion																		
Railroad accident.			1															
Run over by Herdic coach																		
cart.																		
street car																		
Landanum																		
Scald																		
Burn																		
Morphia																		
Aqua ammonia																		
Aconite																		
Bromidia																		
Arsenic																		
Bologna sausage																		
Inhalation of illuminating gas																		
gas from coal stove																		
ether																		
Surgical operation																		
Urethrotomy																		
Dislocation of shoulder																		
Caught under embankment																		
Lightning																		
Total accidents and negligence	3	1	1	1	1	1	25	4	13	8	32	4	15	11	15	3	2	1

Order 2.—*Judicial executions.*

Hanged.

Order 3.—Homicides.

Fracture of skull

Incised wound of abdomen
wound

Pistol-shot wound of head
liver and stomach
chest.....

Blow on head.

Infanticide, neglect.

smothered

strangulation

haemorrhage of cord.

Total homicides

Order 5.--Suicides.

Incised wound of larynx and pharynx

Drowned

Pistol-shot wound of head.

Chloroform

Morphine.

Rough on rats

Argenic...

Hanging

Fall from building.

Carbolic acid

Irritant poison.

Total suicides

Order 5.—*Injuries received during the late civil war.*

Injuries.

Total injuries received during late civil war.

Total violence

Total from all causes

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent. of each cause to total mor- tality.	DEATH RATE.		RECAPITULATION.										1886.					
			Deaths per 1,000 inhabitants.		Total by color and sex.			Total by color.		Total by sex.		July.			August.					
			W.	C.	M.	F.	M.	F.	W.	C.	M.	F.	W.	M.	F.	W.	M.	F.		
RECAPITULATION.																				
Miasmatic diseases	829	17.771	3.300	5.243	233	229	176	191	462	367	409	420	35	34	20	30	30	41	34	28
Enthetic diseases	26	.557	.071	.229	6	4	9	7	16	16	15	11			1				2	3
Dietic diseases	129	2.765	.379	1.085	30	23	48	28	53	76	78	51	4	3	8	7	2		5	...
Parasitic diseases	5	.107	.014	.043	1	1	3		2	3	4	1					1		...	...
Total zymotic diseases	989	21.201	3.764	6.600	270	257	326	226	527	462	506	483	39	37	29	37	33	42	41	31
Diathetic diseases	185	3.966	.878	.885	46	77	17	45	123	62	63	122	4	6	3	5	4	9	2	1
Tubercular diseases	986	21.136	3.272	7.543	240	218	254	274	458	528	494	492	17	20	23	23	17	17	23	20
Total constitutional diseases	1,171	25.102	4.150	8.428	286	295	271	319	581	590	557	614	21	26	26	28	21	26	25	21
Nervous system	596	12.775	2.364	3.786	200	131	149	116	331	265	349	247	19	12	10	13	17	12	8	12
Circulatory organs	250	5.359	1.071	1.430	72	78	47	53	150	100	119	131	7	2	3	4	4	5	4	3
Respiratory organs	501	10.739	1.772	3.615	139	109	132	121	248	253	271	230	3	3	3	10	5	6	3	12
Digestive organs	304	6.516	1.284	1.772	111	69	69	55	180	124	180	124	8	4	11	6	9	8	8	8
Urinary organs	136	2.916	.629	.685	54	34	26	22	88	48	80	56		2	3	3	6		2	1
Generative organs	22	.471	.114	.084	1	15		6	16	6	1	21		2						...
Osseous and locomotory	5	.107	.014	.042	2			3	2	3	2	3					2			...
Integumentary	3	.066	.007	.028	1		1	1	1	2	2	1			1					...
Total local diseases	1,817	38.949	7.262	11.443	580	436	424	377	1,016	801	1,004	813	37	25	31	37	43	31	25	37
Children	260	5.571	.800	2.116	58	54	72	76	112	148	130	130	4	5	9	9	6	3	5	5
Women	35	.750	.142	.215		20		15	20	15		35		1		3		1		...
Old age	196	4.202	.778	1.244	50	59	32	55	109	87	82	114	8	7	2	3	1	2	4	7
Nutrition	8	.174	.043	.029	2	4		2	6	2	2	6		1						...
Total developmental diseases	499	10.697	1.763	3.604	110	137	104	148	247	252	214	285	12	14	11	14	7	6	9	12
Accidents and negligence	134	2.872	.607	.700	74	11	29	20	85	49	103	31	7			5	5	4	1	...
Judicial executions																				...
Homicides	30	.643	.043	.342	5	1	13	11	6	24	18	12			1				1	...

Suicides		24	.516	.150	.043	17	4	2	1	21	3	19	5						
Injuries received during the late civil war		1	.021	.007		1				1		1							
Total violence		189	4,052	.807	1,085	97	16	44	32	113	76	141	48	7	6	3	7	4	2
I. Zymotic diseases		9-9	21,200	3,764	6,600	270	257	236	226	527	462	1,006	483	39	37	29	37	42	41
II. Constitutional diseases		1,171	25,102	4,150	8,448	2-6	295	271	319	581	590	557	614	21	26	26	28	26	25
III. Local diseases		1,817	38,949	7,262	11,443	380	436	424	377	1,016	801	1,004	813	37	25	31	37	43	31
IV. Developmental diseases		499	10,697	1,763	3,604	110	137	104	148	247	252	214	285	12	14	11	14	6	9
V. Violence		189	4,052	.807	1,085	97	16	44	32	113	76	141	48	7		6	3	7	2
Grand total from all causes, by sex and color		\$4,665	100,000	17,746	31,160	1,343	1,141	1,079	1,102	2,484	2,181	2,422	2,243	116	102	103	119	111	109
Total from all causes, by color						2,484		2,181		2,484	2,181			218	222		220	220	203
Percentages from all causes, by color, in each pe- riod of life, to total mortality.						53.247		49.753						4.67	4.70		4.71		4.35
Rate of deaths per 1,000 inhabitants (white and colored).						17.746		31.160						1.557	3.171		1.571		29.00
Grand total from all causes		4,665					4,665								440			423	
Death-rate per 1,000 inhabitants (total)							22.214										2,095		2,014

Table 1.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1904.												1905.															
	September.				October.				November.				December.				Total second quarter.				January.							
	W.		C.		W.		C.		W.		C.		W.		C.		W.		C.		W.		C.		W.		C.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Miasmatic diseases.....	29	27	21	26	94	102	75	84	21	17	23	20	19	17	7	6	10	9	0	9	50	43	36	25	5	10	2	2
Epidemic diseases.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dietic diseases.....	3	4	7	1	9	7	20	11	5	4	5	2	4	1	2	3	1	2	...	...	10	7	7	6	2	3	2	2
Parasitic diseases.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total zymotic diseases.....	32	31	29	28	104	110	99	96	27	22	29	23	23	18	10	9	12	11	6	11	62	51	45	43	7	15	4	4
Diathetic diseases.....	2	8	...	5	10	23	5	11	3	9	...	...	5	3	...	4	2	3	3	2	10	15	3	6	6	10	3	7
Tubercular diseases.....	26	19	23	18	60	56	69	61	24	16	28	24	22	19	21	28	28	19	12	18	74	54	61	70	19	19	18	20
Total constitutional diseases.....	28	27	23	23	70	79	74	72	27	25	28	24	27	22	21	32	30	22	15	20	84	69	64	76	25	29	21	27
Nervous system.....	18	18	18	8	54	42	36	33	15	13	9	13	17	4	16	11	17	7	8	6	49	24	33	30	10	14	12	8
Circulatory organs.....	6	6	3	3	17	13	10	10	6	4	6	4	8	8	...	4	5	8	3	7	14	20	9	15	8	4	5	7
Respiratory organs.....	6	6	9	6	14	15	15	28	9	10	10	5	12	10	16	8	13	13	19	14	34	33	45	27	19	16	15	19
Digestive organs.....	12	11	2	6	29	23	21	20	17	3	3	8	10	4	7	2	4	6	7	5	31	13	17	15	10	10	6	3
Urinary organs.....	8	1	2	1	14	3	7	5	10	2	2	1	2	4	2	0	5	3	3	2	17	9	7	8	2	5	3	1
Generative organs.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Osseous and locomotory.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Integumentary.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total local diseases.....	50	44	34	27	130	100	90	101	57	34	30	31	45	30	41	26	44	37	40	35	146	101	111	92	49	51	41	38
Children.....	4	6	8	6	14	14	22	19	6	4	9	5	1	8	6	5	7	2	8	3	14	14	23	13	5	5	6	7
Women.....	...	3	...	...	5	...	3	...	...	3	...	...	...	2	...	...	4	4	...	2	...	9	...	2	...	2	...	2
Old age.....	7	7	2	6	16	16	8	16	2	4	2	2	6	5	2	5	2	9	...	5	10	18	4	12	8	4	3	4
Nutrition.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...
Total developmental diseases.....	11	16	10	12	30	36	30	38	8	11	11	7	7	15	8	10	10	17	8	10	25	43	27	27	13	12	9	13
Accidents and negligence.....	5	...	1	3	17	4	7	6	6	...	2	1	6	...	2	4	4	...	4	2	16	...	8	7	6	2	...	...
Judicial executions.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Homicides.....	1	...	...	1	1	...	2	1	1	...	1	...	...	...	1	2	1	1	1	...	2	1	3	4	...	...	1	1

RECAPITULATION.

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1886.												1887.																	
	September.			October.			November.			December.			Total second quarter.			January.														
	W.			W.			W.			W.			W.			W.														
	C.			C.			C.			C.			C.			C.														
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.				
Miasmatic diseases	29	27	21	26	94	102	75	84	21	17	23	20	19	17	7	6	10	9	6	9	50	43	36	35	5	10	2	2		
Enthetic diseases	3	4	7	1	9	7	20	11	5	4	5	2	4	1	2	3	1	2	1	1	2	10	7	1	2	2	3	2	2	
Dietic diseases			1		1	1	1				1																			
Parasitic diseases																														
Total zymotic diseases	32	31	29	28	104	110	99	96	27	22	29	23	23	18	10	9	12	11	6	11	62	51	45	43	7	15	4	4	4	
Diathetic diseases	2	8		5	10	23	5	11	3	9			5	3		4	2	3	3	2	10	15	3	6	6	10	3	7	7	
Tubercular diseases	26	19	23	18	60	56	69	61	24	16	28	24	22	19	21	28	28	19	12	18	74	54	61	70	19	19	18	20	20	
Total constitutional diseases	28	27	23	23	70	79	74	72	27	25	28	24	27	22	21	32	30	22	15	20	84	69	64	76	25	29	21	27	27	
Nervous system	18	18	18	8	54	42	36	33	15	13	9	13	17	4	16	11	17	7	8	6	49	24	33	30	10	14	12	8	7	
Circulatory organs	6	6	3	3	17	13	10	10	6	4	6	4	3	8		4	5	8	3	7	14	20	9	15	8	4	5	8	8	
Respiratory organs	6	6	9	6	14	15	15	28	9	10	10	5	12	10	16	8	13	13	19	14	34	33	45	27	19	16	15	19	19	
Digestive organs	12	11	2	6	29	23	21	20	17	3	3	8	10	4	7	2	4	6	7	5	31	13	17	15	10	10	6	3	3	
Urinary organs	8	1	2	1	14	3	7	5	10	2	2	1	2	4	2	0	5	3	3	2	17	9	7	3	2	5	3	1	1	
Generative organs		2		2		4		3		2																				
Oseous and locomotory								2																						
Integumentary							1						1			1					1									
Total local diseases	50	44	34	27	130	100	90	101	57	34	30	31	45	30	41	26	44	37	40	35	146	101	111	92	49	51	41	41	38	
Children	4	6	8	6	14	14	22	19	6	4	9	5	1	8	6	5	7	2	8	3	14	14	23	13	5	5	6	7	7	
Women		3			5			3		3				2				4		2		9		2		2		2	2	2
Old age	7	7	2	6	16	16	8	16	2	4	2	2	6	5	2	5	2	9		5	10	18	4	12	8	4	3	4	4	4
Nutrition						1											1	2			1	2				1				
Total developmental diseases	11	16	10	12	30	36	30	38	8	11	11	7	7	15	8	10	10	17	8	10	25	43	27	27	13	12	9	13	13	13
Accidents and negligence	5		1	3	17	4	7	6	6		2	1	6		2	4	4		4	2	16		8	7	6	2				
Judicial executions																														
Homicides	1			1	1		2	1	1		1				1	2	1	1	1	1	2	2	3	4			1	1	1	1

RECAPITULATION.

Suicides	2	1	3	1	3	1	1	3	1	6	2	1	1
Injuries received during the late civil war.....													
Total violence	8	2	4	22	4	10	99	96	7	10			
I. Zymotic diseases	32	31	29	28	104	110	99	96	27	22	29	23	23
II. Constitutional diseases	28	27	23	23	70	79	74	72	27	25	28	24	27
III. Local diseases	50	44	34	27	130	100	90	101	57	34	30	31	45
IV. Developmental diseases	11	16	10	12	30	36	30	36	8	11	11	7	7
V. Violence	8	....	2	4	22	4	10	7	10	....	3	2	6
Grand total from all causes, by sex and color.	129	118	98	94	356	329	303	314	129	92	101	87	108
Total from all causes, by color	247	192	685	617	221	188	194	166	193	154	608	508	210
Percentages from all causes, by color, in each pe- riod of life, to total mortality.	5.29	4.11	14.68	13.22	4.72	4.03	4.16	3.56	4.13	3.30	13.04	10.89	4.50
Rate of deaths per 1,000 inhabitants (white and colored).	1.765	2.743	4.893	8.814	1.578	2.684	1.385	2.372	1.378	2.200	4.343	7.256	1.500
Grand total from all causes	439	1,302	409	360	347	1,116	369	1,757	5,314	1,652	1,714	1,948	1,714
Death-rate ner 1,000 inhabitants (total)	2.091	6.200	1.948	1.714	1.652	5.314	1.757	5,314	1,652	1,714	1,948	1,714	1,714

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

1887.																					
Cause of death.	February.			March.			Total third quarter.			April.			May.			June.			Total fourth quarter.		
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.	
RECAPITULATION.																					
Miasmatic diseases.....																					
Enthetic diseases.....																					
Dietic diseases.....																					
Parasitic diseases.....																					
Total zymotic diseases.....																					
Diathetic diseases.....																					
Tubercular diseases.....																					
Total constitutional diseases.....																					
Nervous system.....																					
Circulatory organs.....																					
Respiratory organs.....																					
Digestive organs.....																					
Urinary organs.....																					
Generative organs.....																					
Osseous and locomotory.....																					
Integumentary.....																					
Total local diseases.....																					
Children.....																					
Women.....																					
Old age.....																					
Nutrition.....																					
Total developmental diseases.....																					
Accidents and negligence.....																					
Judicial executions.....																					
Homicides.....																					

Suicides	2	1	3	1	6	2	8	7	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.																Per cent. of each cause to total mor- tality un- der 5 years of age.							
	Under 1 year.				1 to 2 years.				2 to 3 years.				3 to 4 years.					4 to 5 years.				Total under 5 years.		
	W.		C.		W.		C.		W.		C.		W.		C.			W.		C.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.			
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.		W.	C.	W.	C.			
Miasmatic diseases	89	75	94	89	24	26	17	27	9	8	7	8	5	7	6	3	2	136	124	129	129	518	28,923	
Enthetic diseases	3	2	7	4				1			1							3	2	8	5	18	1,004	
Dietic diseases	12	19	40	25	1	1	3	2				1						14	20	43	28	105	5,863	
Parasitic diseases	1	1	2															1	1	3		5	279	
Total zymotic diseases	105	97	143	118	25	27	20	30	9	8	8	9	6	7	6	3	2	154	147	183	162	646	36,070	
Diathetic diseases	1	1	1	1			1	1				1				1								
Tubercular diseases	25	26	36	32	8	9	21	19	2	2	8	6	1		6	7		1	2	2	4	9	501	
Total constitutional diseases	26	27	37	33	8	9	22	20	2	3	8	7	1		6	8		1	2	4	75	224	12,505	
Nervous system	42	26	65	49	5	9	5	10	4	3	5	4	3	1		1		1	54	42	75	65	236	13,178
Circulatory organs	1																							
Respiratory organs	37	18	46	32	8	11	19	27	3	1	9	11	2	2	2	2		1	33	79	74	238	13,288	
Digestive organs	31	14	26	19	5	7	11	13		1	3	1	1		1	2		37	22	41	35	135	7,535	
Urinary organs	1	1	1		1		3									1		2	1	4	1	8	447	
Generative organs																								
Osseous and locomotory																								
Integumentary					1																	1	356	
Total local diseases	112	59	138	101	20	27	38	50	7	5	17	16	6	3	3	5	2	4	3	147	98	175	619	34,562
Children	57	54	71	74	1		1	1				1							58	54	72	76	260	14,516
Women																								
Old age																								
Nutrition	1															1						1	2	111
Total developmental diseases	58	54	71	74	1		1	1				1				1			59	54	72	77	262	14,629
Accidents and negligence	1	1	2	3	1			2		1	2		2		2		1		5	2	6	7	20	1,117
Judicial executions																								
Homicides	1		8	11																	8	11	20	1,117

Suicides Injuries received during the late civil war.....	2	1	10	14	1	2	1	2	2	2	1	2	2	2	6	2	14	18	40	2,234
Total violence																				
I. Zymotic diseases	105	97	143	118	25	27	20	30	9	8	8	9	5	7	6	3	10	8	6	2
II. Constitutional diseases	26	27	37	33	8	9	22	20	2	3	8	7	1	1	6	8	2	1	2	4
III. Local diseases	112	59	138	101	20	27	38	50	7	5	17	16	6	3	3	5	2	4	3	3
IV. Developmental diseases.....	58	54	71	74	1	1	1	1	1	1	2	1	2	2	2	1	1	1	2	2
V. Violence	2	1	10	14	1	1	2	2	1	1	2	2	2	2	2	2	1	1	2	2
Grand total from all causes, by sex and color	303	238	399	340	55	63	81	103	18	17	35	33	14	10	17	17	13	13	11	11
Total from all causes, by color	541		739		118		184		35		68		24		34		26		22	
Percentages from all causes, by color, in each pe- riod of life, to total mortality.	11.59		15.83		2.53		3.94		0.75		1.46		0.51		0.73		0.56		0.47	
Rate of deaths per 1,000 inhabitants (white and colored).	3.864		10.557		.843		2.627		.250		.972		.171		.486		.186		.315	
Grand total from all causes	1,280				302				103				58				48		1,791	
Death-rate per 1,000 inhabitants (total)	6.095				1.438				.491				.276				.229		8.529	

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEASED.												SOCIAL RELATIONS.					
	70 to 80 years.						80 to 90 years.						Unknown age.					
	W.			C.			W.			C.			W.			C.		
	70 to 80 years.			80 to 90 years.			Above 90 years.			Above 90 years.			Unknown age.			Unknown age.		
	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.
RECAPITULATION.																		
Miasmatic diseases.....	7	12	2	6	2	1										33	26	18
Enchetic diseases.....																1	1	
Dietic diseases.....																8	2	3
Parasitic diseases.....																		
Total zymotic diseases.....	7	12	2	6	2	1							42	29	21	23	203	195
Diathetic diseases.....	9	7	1	4	3	1							32	27	9	10	23	11
Tubercular diseases.....	1	7	5	6		2							81	69	63	64	105	175
Total constitutional diseases.....	10	14	6	10	3	3							113	96	72	74	128	186
Nervous system.....	23	14	8	9	5	13							71	28	34	17	69	74
Circulatory organs.....	13	11	8	6	3	6							36	35	31	19	8	11
Respiratory organs.....	9	12	2	3	6	7							49	23	25	8	50	98
Digestive organs.....	12	10	6	1	1	1							49	15	14	12	34	40
Urinary organs.....	14	2	3	3	2	1							35	14	15	11	10	6
Generative organs.....		1												5		4	1	1
Osseous and locomotory.....	1												1			3		
Integumentary.....																1		
Total local diseases.....	72	50	27	21	17	28							241	120	119	75	260	230
Children.....																		
Women.....																		
Old age.....	17	26	9	16	23	24							22	3	12	7	3	76
Nutrition.....														1			1	1
Total developmental diseases.....	17	26	9	16	23	24							22	24	12	15	62	87
Accidents and negligence.....	3				1	1							26	6	8	5	44	14
Judicial executions.....																		
Homicides.....													1		1		1	11

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	RELATION.						NATIVITY.											
	Widow or widower.			Unknown.			District of Columbia.				Other parts of United States.				Foreign.			
	White.		Colored.		White.		White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
RECAPITULATION.																		
Miasmatic diseases.....	7	24	4	8			161	155	137	147	49	53	38	44	22	20	1	1
Enthetic diseases.....	1						4	3	8	5	1	1	1	2	1		1	
Dietic diseases.....	2	1	1				18	17	41	28	9	3	6		3	3	1	
Parasitic diseases.....							1	1	2				1					
Total zymotic diseases.....	10	25	5	8			184	176	188	180	59	57	46	46	26	23	1	2
Diathetic diseases.....	5	27	4	24			7	18	3	16	26	39	14	28	13	20		1
Tubercular diseases.....	20	44	15	35			105	95	133	120	91	93	120	153	43	30	1	1
Total constitutional diseases.....	25	71	19	59			112	113	136	136	117	132	134	181	56	50	1	2
Nervous system.....	20	34	10	23			72	65	83	74	84	46	64	41	43	20	2	1
Circulatory organs.....	21	35	6	23			4	13	11	7	46	42	35	46	22	23	1	
Respiratory organs.....	14	36	7	15			65	46	89	83	42	41	43	37	31	21	1	
Digestive organs.....	6	20	2	3			48	30	48	36	40	30	21	19	23	9		
Urinary organs.....	11	10	4	5			11	13	8	8	30	14	18	14	13	7		
Generative organs.....		3		1				4		1	1	10		5	1	1		
Osseous and locomotory.....	1										1			3	1			
Integumentary.....									1	1	1							
Total local diseases.....	73	138	29	70			200	171	240	210	245	183	181	165	133	81	1	3
Children.....							58	54	72	76								
Women.....								4		4								
Old age.....	24	46	15	45			6	9	5	8	27	29	27	47	17	20	1	
Nutrition.....	1	2		1			1					1		2	1	3		
Total developmental diseases.....	25	48	15	46			65	67	77	88	27	41	27	60	18	28	1	
Accidents and negligence.....	3	1	1	1			25	4	13	8	32	4	15	11	15	3	2	1
Judicial executions.....																		
Homicides.....	1						1		10	11	2	1	3		1		1	

TABLE II.—Location of deaths, year ending June 30, 1887.

Diseases.	West Washing- ton.				Washington.																							
	1st division—west of 32d street.		2d division—east of 32d street.		3d division—south of K and west of 15th street northwest.				4th division—north of K and west of Vermont avenue northwest.				5th division—north of Massachu- setts avenue, east of Vermont avenue, and west of 1st street northwest.				6th division—north of B street south, east of 15th street, south of Massachusetts avenue, west of 1st street northwest.				7th division—south of B street south, west of 1st street west, and Delaware avenue south- west.				8th division—east of Delaware avenue, south of E street south- east.			
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.									
Consumption	10	6	15	20	16	20	31	45	45	54	39	15	38	44	24	15												
Pneumonia	3	2	1	6	7	10	12	15	12	28	16	6	20	15	10	5												
Cholera infantum	2	...	3	...	1	4	11	13	16	28	8	6	13	7	6	3												
Scarlet fever	1	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...												
Diphtheria	1	...	...	...	3	2	5	2	8	2	8	1	6	3	1	1												
Typhoid fever	2	2	3	3	...	...	4	7	9	8	9	1	12	...	5	2												
Typho-malarial fever ...	...	...	...	...	1	...	1	2	2	1	2	...	1	2	1	1												
Malarial fever	...	...	...	...	1	4	2	2	2	1	2	1	6	3	2	6												
Diarrhœal diseases, other than cholera infantum .	1	...	2	3	5	6	14	20	13	10	12	3	8	12	3	4												
All other causes	52	16	56	49	82	88	138	180	190	200	245	76	169	151	94	73												
Total	72	26	82	81	119	137	218	286	299	334	343	109	273	237	147	110												
Percentage to total deaths by color ..	2.90	1.19	3.30	3.70	4.79	6.28	8.78	13.11	12.04	15.30	13.80	4.99	10.99	10.86	5.92	5.04												

Diseases.	Washington.				County.				Hospitals and other public institutions.		Unknown.		Totals by color.		Grand total.
	9th division—north of E street southeast, east of 1st street west, south of Maryland avenue northwest.		10th division—east of 1st street west, north of Maryland avenue northeast.		11th division—west of Eastern Branch.		12th division—east of Eastern Branch.								
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
Consumption	28	24	27	14	20	15	5	30	60	76	.....	.....	358	378	736
Pneumonia.....	6	17	13	9	6	3	4	3	12	10	.....	.....	122	129	251
Cholera infantum	7	9	18	5	6	12	.....	4	5	.....	.....	.....	96	91	187
Scarlet fever	1	.....	2	1	1	.....	.....	.....	.....	.....	.....	.....	11	4	15
Diphtheria	8	1	7	1	3	3	2	1	1	.....	.....	.....	55	17	72
Typhoid fever	4	2	10	3	3	.....	1	2	8	12	.....	.....	72	44	116
Typho-malarial fever	1	1	1	2	1	1	.....	1	.....	.....	.....	.....	11	11	22
Malarial fever	1	2	3	2	1	1	.....	.....	2	2	.....	.....	22	24	46
Diarrhœal diseases, other than cholera infantum ...	7	15	8	3	8	6	4	4	15	20	.....	.....	100	106	206
All other causes.....	108	92	131	55	72	71	21	55	267	243	12	28	1,637	1,377	3,014
Total.....	171	163	220	95	121	112	37	100	370	363	12	28	2,484	2,181	4,665
Percentage to total deaths by color.....	6.88	7.49	8.86	4.37	4.87	5.15	1.49	4.60	14.90	16.64	.40	1.28	100.00	100.00	4.665

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TABLE III.—Deaths under one year of age, arranged monthly, for year ending June 30, 1887

	1 day and under.	1 day to 1 week.	1 week to 1 month.	1 to 2 months.	2 to 3 months.	3 to 4 months.	4 to 5 months.	5 to 6 months.	6 to 7 months.	7 to 8 months.	8 to 9 months.	9 to 10 months.	10 to 11 months.	11 to 12 months.	Total.	Total by color.	Percentage to total mortality under 1 year of age by color.
July, 1886:																	
White males	4	1	4	2	4	3	3	4	2	2	3	2	1	0	35	71	13.13
females	1	3	5	4	2	6	2	1	7	1	1	3	0	0	36		
Colored males	6	3	7	8	3	2	2	6	5	1	4	1	1	1	50	99	13.34
females	2	1	6	6	3	3	4	6	8	3	2	3	1	1	49		
Total	13	8	22	20	12	14	11	17	22	7	10	9	3	2	170	170	
August, 1886:																	
White males	6	3	3	6	2	1	6	1	2	2	2	2	2	3	41	65	12.01
females	3	1	0	2	1	2	1	2	2	3	3	2	1	1	24		
Colored males	6	0	3	5	3	1	3	3	8	2	1	7	2	0	44	83	11.18
females	1	4	5	4	1	5	1	3	5	4	3	0	2	1	39		
Total	16	8	11	17	7	9	11	9	17	11	9	11	7	5	148	148	
September, 1886:																	
White males	3	2	2	3	4	1	1	2	0	0	1	1	1	2	23	50	9.24
females	3	5	3	4	2	1	2	1	1	0	2	2	0	1	27		
Colored males	4	2	9	3	4	4	3	6	0	1	2	2	1	4	45	63	8.90
females	3	2	1	2	4	0	0	2	1	1	1	1	0	0	18		
Total	13	11	15	12	14	6	6	11	2	2	6	6	2	7	113	113	
October, 1886:																	
White males	3	1	1	3	5	5	3	0	2	0	2	2	0	0	27	50	9.24
females	3	1	2	2	8	3	1	0	1	2	0	0	0	0	23		
Colored males	2	6	5	8	3	3	2	0	1	1	2	0	0	2	35	61	8.22
females	1	5	6	3	2	2	1	1	2	0	0	2	0	1	26		
Total	9	13	14	16	18	13	7	1	6	3	4	4	0	3	111	111	
November, 1886:																	
White males	2	1	2	0	1	0	2	1	3	0	1	0	0	0	13	24	4.44
females	2	2	1	2	2	1	1	0	0	0	0	0	0	0	11		
Colored males	2	2	3	5	0	5	2	2	1	1	0	0	1	1	25	47	6.33
females	3	3	3	4	4	2	0	0	0	1	1	1	0	0	22		
Total	9	8	9	11	7	8	5	3	4	2	2	1	1	1	71	71	
December, 1886:																	
White males	4	3	4	3	1	3	1	0	1	1	0	2	0	0	23	30	5.54
females	1	1	1	0	0	1	0	0	1	1	0	0	1	0	7		
Colored males	5	4	0	2	3	3	0	1	0	0	0	1	1	1	21	35	4.72
females	4	2	0	1	3	1	0	0	2	0	1	0	0	0	14		
Total	14	10	5	6	7	8	1	1	4	2	1	3	2	1	65	65	
January, 1887:																	
White males	3	1	1	1	2	3	0	2	1	1	0	0	1	0	16	31	5.73
females	3	0	3	0	3	3	0	2	0	0	0	0	1	0	15		
Colored males	4	4	4	3	0	1	0	0	1	1	3	1	2	0	24	44	5.93
females	5	4	1	0	2	0	1	1	3	1	2	0	0	0	20		
Total	15	9	9	4	7	7	1	5	5	3	5	1	4	0	75	75	
February, 1887:																	
White males	1	2	2	1	0	1	0	0	0	0	1	0	0	1	9	13	2.40
females	0	0	1	0	0	0	2	1	0	0	0	0	0	0	4		
Colored males	3	2	3	0	2	3	2	1	0	3	0	1	1	0	21	35	4.72
females	1	2	4	1	0	2	1	0	0	1	1	1	0	0	14		
Total	5	6	10	2	2	6	5	2	1	4	2	2	1	1	48	48	
March, 1887:																	
White males	3	3	2	3	3	2	0	1	3	1	3	0	0	0	24	39	7.20
females	5	0	0	0	4	1	0	1	1	0	2	0	0	1	15		
Colored males	3	2	2	1	2	2	1	2	2	0	2	3	2	2	26	50	6.74
females	6	4	2	2	2	0	2	0	3	0	0	0	2	1	24		
Total	17	9	6	6	11	5	3	4	9	1	7	3	4	4	89	89	

TABLE III.—Deaths under one year of age, etc.—Continued.

	1 day and under.	1 day to 1 week.	1 week to 1 month.	1 to 2 months.	2 to 3 months.	3 to 4 months.	4 to 5 months.	5 to 6 months.	6 to 7 months.	7 to 8 months.	8 to 9 months.	9 to 10 months.	10 to 11 months.	11 to 12 months.	Total.	Total by color.	Percentage to total mortality under 1 year of age by color.
April, 1887:																	
White males	2	1	3	1	0	1	0	0	0	1	4	1	0	0	14	27	5.00
White females	3	2	1	1	2	2	0	1	0	1	0	0	0	0	13		
Colored males	3	3	7	2	1	3	1	1	0	0	1	3	0	1	26	48	6.47
Colored females	1	2	3	1	4	1	1	2	0	1	1	2	2	1	22		
Total	9	8	14	5	7	7	2	4	0	3	6	6	2	2	75	75	
May, 1887:																	
White males	2	2	1	2	0	0	2	0	0	0	1	2	0	2	14	27	5.00
White females	4	1	0	0	2	1	1	0	1	1	0	1	1	0	13		
Colored males	2	2	5	5	2	1	1	0	2	2	2	2	1	0	25	49	6.60
Colored females	2	3	3	1	1	5	2	2	2	2	0	1	0	0	24		
Total	10	8	9	6	5	7	6	2	5	5	3	6	2	2	76	76	
June, 1887:																	
White males	5	5	3	3	4	5	8	9	6	6	4	3	1	2	64	114	21.07
White females	1	2	2	3	4	2	8	7	4	6	5	4	1	1	50		
Colored males	4	4	3	2	5	8	8	2	6	3	6	2	3	1	57	125	16.85
Colored females	4	2	6	7	8	6	6	7	6	6	1	4	5	0	68		
Total	14	13	14	15	21	21	30	25	22	21	16	13	10	4	239	239	

RECAPITULATION.

	1 day and under.	1 day to 1 week.	1 week to 1 month.	1 to 2 months.	2 to 3 months.	3 to 4 months.	4 to 5 months.	5 to 6 months.	6 to 7 months.
Grand total	144	111	138	120	118	111	88	84	96
Per cent. to total mortality under 1 year	11.39	8.65	10.77	9.36	9.44	8.66	6.87	6.55	7.49
Total white males	38	25	28	28	26	25	26	20	20
Per cent. to total mortality under 1 year	12.38	8.14	9.12	9.12	8.47	8.14	9.77	6.51	6.51
Total white females	29	18	19	18	30	23	18	16	18
Per cent. to total mortality under 1 year	12.38	7.68	8.10	7.69	12.82	9.84	6.00	4.84	7.69
Total colored males	44	34	51	42	28	36	25	24	26
Per cent. to total mortality under 1 year	11.08	8.57	12.85	10.58	7.05	9.07	6.30	6.04	6.55
Total colored females	33	34	40	32	34	27	19	24	32
Per cent. to total mortality under 1 year	10.15	9.86	11.60	9.27	10.72	7.82	5.50	6.96	9.27

	7 to 8 months.	8 to 9 months.	9 to 10 months.	10 to 11 months.	11 to 12 months.	Total.	Total by color.	Percentage to total mortality under 1 year of age by color.
Grand total	64	71	65	38	32	1,280		
Per cent. to total mortality under 1 year	4.99	5.54	5.07	2.96	2.26	100.00		
Total white males	14	22	15	6	10	303		
Per cent. to total mortality under 1 year	4.56	7.17	4.89	1.96	3.26	100.00	541	42.27
Total white females	15	13	12	5	4	238		
Per cent. to total mortality under 1 year	6.42	5.56	5.13	2.14	1.71	100.00		
Total colored males	15	23	23	15	13	399		
Per cent. to total mortality under 1 year	3.78	5.79	5.79	3.78	2.77	100.00	739	57.73
Total colored females	20	13	15	12	5	340		
Per cent. to total mortality under 1 year	5.80	3.77	4.35	3.48	1.45	100.00		

TABLE IV.—Deaths: Number of deaths of children under five years of age, from the principal diseases of children, year ending June 30, 1887.

Diseases.	White.		Colored.	
	Deaths.	Percentage to total mortality of whites under 5 years of age.	Deaths.	Percentage to total mortality of colored under 5 years of age.
Measles	9	1.21	2	0.19
Croup	15	2.03	6	0.57
Diphtheria	28	3.78	7	0.67
Scarlet fever	7	0.94	2	0.19
Typho malarial fever			3	0.29
Diarrhœal diseases, except cholera infantum	60	8.06	91	8.60
Whooping cough	19	2.55	25	2.62
Inanition	34	4.57	71	6.78
Scrofula, tuberculosis, marasmus and tabes, hydrocephalus, and tubercular meningitis	69	9.28	102	9.73
Phthisis pulmonalis	5	.67	39	3.72
Acute diseases of the brain	43	5.77	17	1.63
Convulsions	28	3.78	68	6.49
Trismus	16	2.14	41	3.71
Bronchitis and congestion of the lungs	47	6.31	88	8.40
Pneumonia	36	4.83	63	6.01
Diseases of the digestive organs	59	7.93	76	7.26
Developmental diseases of children	112	15.05	148	14.13
Accidents and negligence	7	0.94	13	1.24
All others	150	20.16	185	17.68
Total	744	100.00	1,047	100.00
Percentage to total mortality by color		29.95		47.55
Annual death rate by color		5.31		14.95

TABLE V.—Number dying, seventy years and over, year ending June 30, 1887.

Age.	White.		Colored.		Total.	Age.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	
70 years	12	12	10	9	52	87 years	1	5	2	6	14
71 years	13	11	1	1	26	88 years	2	2		4	8
72 years	12	9	3	7	31	89 years	1	2		1	4
73 years	14	5	1	5	25	90 years	1	2	1	5	9
74 years	7	14	2	3	26	91 years					
75 years	12	13	16	15	56	92 years		1			1
76 years	13	12		5	30	93 years					
77 years	4	8	1	4	17	94 years	1			1	2
78 years	11	10	2	1	24	95 years	1	1	1	2	5
79 years	9	8		4	21	96 years			1	1	2
80 years	10	15	7	14	46	97 years					
81 years	1	7	2	3	13	98 years	1			3	4
82 years	9	3		2	14	99 years			1		1
83 years	8	8	1	2	19	100 years			2	1	3
84 years	3	8		2	14						
85 years	8	7	3	8	26						
86 years	4	5	2	4	15						
						Total	158	168	69	113	508

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TABLE VI.—Average age in years of decedents dying from eighteen different diseases and from suicide during the year ending June 30, 1887.

Diseases.	White.				Colored.			
	Male.		Female.		Male.		Female.	
	Total deaths.	Years.	Total deaths.	Years.	Total deaths.	Years.	Total deaths.	Years.
Consumption	189	37	169	37	167	31	211	27
Typhoid fever	32	24	40	20	24	25	20	21
Apoplexy	46	57	32	60	17	55	20	55
Insanity	52	53	13	46	18	46	9	55
Softening of the brain	8	46	5	53	2	45	1	85
Paralysis	7	66	7	56	8	46	8	69
Cancer	25	62	53	56	8	44	26	53
Epilepsy	2	29	2	52	2	44	2	52
Disease of the heart	62	57	75	57	43	51	53	52
Bright's disease	19	52	14	48	7	48	9	42
Rheumatism	13	49	13	35	3	43	7	45
Aneurisms	3	58	1	35	1	44	.....	.....
Angina pectoris	3	51	1	66	1	75	.....	.....
Gastritis	13	61	6	53	5	42	5	13
Cirrhosis of liver	10	41	3	56	1	40	1	45
Dropsies	1	49	6	60	4	60	9	37
Diabetes	7	53	3	50	2	48	1	50
Hernia	2	60	1	66	2	24	1	53
Suicides	17	37	4	33	2	60	1	34

TABLE VII.—Deaths: Number of deaths occurring in the hospitals and other public institutions during the year ending June 30, 1887.

Hospitals, etc.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Baltimore and Ohio Railway Station .....	.....	.....	1	.....	1
Barnes Hospital, Soldiers' Home	34	.....	.....	.....	34
Children's Hospital .....	.....	2	13	10	25
Columbia Hospital	1	7	3	1	12
Convent of the Visitation .....	.....	3	.....	.....	3
Emergency Hospital	3	.....	1	.....	4
Epiphany Church Home .....	.....	1	.....	.....	1
Freedmen's Hospital	15	12	117	80	224
Garfield Memorial Hospital	21	8	1	2	32
Georgetown College Infirmary	2	.....	.....	.....	2
Government Hospital for the Insane	56	11	19	8	94
Government Printing Office	1	.....	.....	.....	1
Home for the Aged	7	9	3	3	22
Home for Destitute Colored Women and Children .....	.....	.....	.....	1	1
National Homoeopathic Hospital	4	1	.....	.....	5
Naval Hospital	1	.....	.....	.....	1
Police Stations .....	.....	.....	1	.....	1
Providence Hospital	62	28	11	3	104
Reform School .....	.....	.....	2	.....	2
St. Ann's Infant Asylum	19	21	21	21	82
St. Monica's Asylum .....	.....	.....	.....	1	1
Treasury Building	2	.....	.....	.....	2
United States Pension Office	1	.....	.....	.....	1
Washington Asylum Hospital	16	4	19	17	56
Washington Barracks	1	1	.....	.....	2
Washington City Orphan Asylum .....	.....	1	.....	.....	1
Washington Hospital for Foundlings	5	3			8
Widow's Asylum				1	1
Total	251	112	212	148	723

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TABLE VIII.—Deaths: Deaths and average ages, year ending June 30, 1887.
WHITE MALES.

Months.	All ages.				5 years and over.				20 years and over.				40 years and over.				
	Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.			
		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.	
1886.																	
July	116	30	9	13	75	47	3	14	63	54	...	...	45	64	7	7	7
August	111	27	8	10	64	47	6	25	58	51	1	2	38	61	6	16	16
September	129	36	6	12	95	49	3	19	87	52	7	12	60	62	11	9	9
October	129	30	4	3	93	41	8	28	78	47	7	3	49	58	0	24	24
November	108	37	1	9	83	47	10	7	75	51	10	4	57	58	11	14	14
December	104	33	11	15	75	48	1	19	65	52	6	15	48	60	5	5	5
1887.																	
January	101	40	4	29	80	50	9	24	77	52	3	26	55	61	6	29	29
February	96	39	6	26	80	47	3	5	71	51	8	19	51	60	5	26	26
March	118	36	5	22	86	49	9	2	82	51	8	22	60	56	9	5	5
April	97	38	10	22	75	49	11	24	67	54	3	21	50	62	4	27	27
May	86	33	6	16	65	44	1	14	58	48	3	21	37	59	4	0	0
June	148	22	8	27	69	48	1	19	64	51	...	3	46	58	4	20	20
	1,343	34	0	2	940	47	7	29	845	51	7	2	596	60	5	16	16

WHITE FEMALES.

1886.																
July	102	25	10	27	58	45	0	25	45	54	0	24	30	67	6	19
August	109	31	5	17	73	46	6	13	64	51	6	5	44	61	7	23
September	118	30	7	13	75	47	8	3	66	52	7	24	44	64	6	12
October	92	32	0	7	63	46	5	5	54	52	4	1	37	62	11	29
November	86	38	9	19	70	47	6	4	62	53	2	0	44	61	6	24
December	89	44	1	2	78	50	1	28	70	54	1	15	48	65	6	24
1887.																
January	109	36	5	15	84	47	0	14	73	52	4	17	50	62	6	7
February	69	40	10	22	62	45	5	6	50	53	0	8	33	65	7	12
March	95	38	7	1	69	52	9	16	67	53	9	29	52	60	9	6
April	85	31	8	20	55	48	4	3	47	54	1	1	36	61	1	19
May	73	36	1	11	56	46	11	4	48	52	6	5	35	61	0	20
June	114	24	4	19	58	47	1	26	51	51	8	4	35	67	7	20
	1,141	34	3	2	800	47	7	2	697	52	11	11	488	63	5	23

COLORED MALES.

1886.																
July	103	19	5	27	48	41	4	12	36	50	7	19	23	63	6	8
August	102	17	1	11	40	42	3	27	30	52	8	13	23	60	9	2
September	98	14	9	23	40	35	3	23	32	41	10	15	17	53	4	7
October	101	17	1	24	48	35	0	29	38	41	2	3	18	55	6	0
November	83	24	4	19	49	40	9	13	43	44	10	20	24	57	5	22
December	74	25	1	24	40	45	9	10	33	52	6	2	25	60	4	10
1887.																
January	76	26	0	26	47	41	9	16	39	47	5	25	20	63	4	24
February	74	23	9	28	40	43	4	3	32	50	4	15	22	60	0	0
March	83	20	10	11	41	41	3	19	34	46	10	1	23	55	3	11
April	87	22	5	25	47	40	10	17	36	50	7	2	25	59	11	1
May	89	25	8	10	54	41	3	14	44	47	8	21	30	55	7	18
June	109	15	3	29	42	38	10	14	30	49	2	23	20	58	7	3
	1,079	20	4	11	536	40	8	4	427	48	0	0	270	54	5	24

COLORED FEMALES.

1886.																
July	119	23	7	6	61	45	5	24	54	49	11	27	33	65	6	6
August	101	20	2	23	45	44	4	15	33	55	1	12	22	68	9	3
September	94	26	0	5	54	44	7	20	38	56	2	14	29	66	10	16
October	87	17	9	29	44	34	1	29	28	44	9	29	12	66	9	0
November	83	25	1	24	46	44	8	9	36	53	5	26	24	65	6	15
December	80	28	1	12	58	38	6	9	43	47	7	0	24	62	7	0
1887.																
January	83	25	3	7	50	41	4	19	41	47	10	5	24	61	7	15
February	71	26	8	26	44	42	5	23	34	50	9	16	20	65	4	6
March	87	23	6	25	50	40	3	18	38	48	5	18	20	64	8	12
April	86	29	1	17	54	45	11	18	45	52	11	15	30	65	3	6
May	83	24	8	8	50	40	10	0	40	49	9	5	26	60	8	2
June	128	13	9	5	42	40	6	1	29	51	11	5	20	62	1	24
	1,102	23	8	3	598	41	11	10	459	50	9	2	284	64	7	23

TABLE VIII.—Recapitulation.

	All ages.			5 years and over.			20 years and over.			40 years and over.		
	Total deaths.	Average ages in years, months, and days.			Total deaths.	Average ages in years, months, and days.			Total deaths.	Average ages in years, months, and days.		
		Y.	M.	D.		Y.	M.	D.		Y.	M.	D.
White { Male.....	1,343	34	0	2	940	47	7	29	845	51	7	2
	1,141	34	3	2	800	47	7	2	697	52	11	11
Total	2,484	34	1	17	1,740	47	7	15	1,542	52	3	6
Colored { Male.....	1,079	20	4	11	536	40	8	4	427	48	0	0
	1,102	23	8	3	598	41	11	10	459	50	9	2
Total	2,181	22	0	7	1,134	41	3	22	886	49	4	16
White	2,484	34	1	17	1,740	47	7	15	1,542	52	3	6
Colored	2,181	22	0	7	1,134	41	3	22	885	49	4	16
Grand total	4,665	28	0	27	2,874	44	5	18	2,427	50	9	26
										1,638	60	9 6

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TABLE IX.—Cemeteries and number of decedents buried in each, including those transported outside the District of Columbia, for the year ending June 30, 1887.

Cemeteries.	White.	Colored.	Total.	Cemeteries.	White.	Colored.	Total.
Adas Israel.....	5	.....	5	Moore Cemetery, of Hillsdale.....	.....	39	39
Addison's Chapel.....	4	1	5	National Cemetery at Soldiers' Home.....	36	.....	36
Baptist burial ground.....	.....	7	7	Oak Hill.....	191	.....	191
Brightwood Cemetery.....	.....	5	5	Outside of the District of Columbia.....	332	195	487
Carroll Chapel.....	1	.....	1	Paynes' of Benning's.....	.....	152	152
Christians' burial ground.....	.....	3	3	Potter's Field.....	42	340	382
Congressional Cemetery.....	390	.....	390	Presbyterian, of Georgetown.....	27	.....	27
Convent Cemetery.....	5	.....	5	Prospect Hill.....	116	.....	116
Dangerfield's burial ground.....	.....	1	1	Private grounds.....	4	1	5
Georgetown College Cemetery.....	3	.....	3	Reform School Cemetery.....	.....	1	1
German Prospect Cemetery.....	1	.....	1	Rock Creek Cemetery.....	116	.....	116
Glenwood Cemetery.....	308	.....	308	St. Mary's (German) Cemetery.....	40	.....	40
Good Hope Cemetery.....	.....	3	3	Seagg's burial ground.....	1	1	2
Graceland.....	54	274	328	Shoemaker's farm.....	2	.....	2
Harmonial.....	2	323	325	Smith's, of Hamilton road.....	.....	7	7
Hillsdale.....	.....	16	16	United States Army Medical Museum.....	1	2	3
Holyrood.....	98	34	132	Washington Hebrew Cemetery.....	12	.....	12
Hospital Cemetery of Government Insane Asylum..	37	12	49				
Jones's Chapel.....	.....	8	8				
Lowrie's, of Benning's.....	1	.....	1				
Macedonian.....	.....	4	4				
Methodist of Tennallytown.....	36	.....	36				
Mount Olivet.....	567	210	777				
Mount Pleasant.....	2	506	508				
Mount Zion.....	.....	126	126				
				Total.....	2,484	2,181	4,665

TABLE X.—Showing the daily mortality, divided under twenty-eight heads, classified by color, thirteen heads. All deaths by violence are

JULY, 1896.

[illegible]

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different diseases and ages; also daily meteorological conditions and variations, divided under included. Year ending June 30, 1887.

JULY, 1886.

Meteorological conditions.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.159	74.3	66.0	73.6	61.0	12.6	60.7	57.3	NE. ^s	E. ^r	NE. ^s	177	.02	1
30.011	93.0	64.5	67.5	61.7	5.8	63.1	62.3	NE. ^r	NE. ^r	W. ^r	284	2.53	2
30.071	67.3	72.2	82.9	63.0	19.9	64.3	59.7	NW. ^s	N. ^s	N.W. ^s	100	.....	3
30.092	76.0	74.4	85.2	64.2	21.0	68.3	65.3	NW. ^s	SE. ^s	SE. ^s	64	.....	4
30.160	75.3	73.7	83.7	64.4	19.3	67.7	64.8	E. ^s	E. ^s	SE. ^s	73	.....	5
30.140	79.0	75.5	85.4	64.1	21.3	70.5	68.3	SE. ^s	SE. ^r	S. ^s	72	.....	6
29.979	74.0	79.4	91.2	68.0	23.2	72.0	68.6	SW. ^s	SW. ^s	S. ^s	111	.....	7
29.953	73.0	78.3	88.0	71.4	16.6	71.2	68.0	SW. ^s	NE. ^s	SW. ^s	111	.....	8
29.959	77.7	75.2	82.9	70.0	12.9	70.0	67.5	NE. ^s	E. ^s	SE. ^s	92	.12	9
29.870	73.0	76.8	84.9	71.9	13.0	69.6	65.7	W. ^s	NW. ^s	SE. ^s	108	.....	10
29.855	64.3	78.1	86.2	67.8	18.4	68.7	63.6	NW. ^s	NW. ^s	NE. ^s	95	* (—)	11
29.910	60.0	71.9	79.0	67.1	11.9	62.4	56.2	NE. ^s	E. ^s	0	124	.....	12
29.936	83.7	69.1	73.1	63.9	9.2	65.6	63.8	E. ^s	S. ^s	NE. ^s	115	1.08	13
29.815	84.7	72.4	79.5	66.7	12.8	69.0	67.4	E. ^s	S. ^s	SW. ^s	110	* (—)	14
29.785	88.0	69.7	76.5	64.7	11.8	67.2	66.0	S. ^s	S. ^s	NE. ^s	151	1.61	15
29.872	75.0	71.7	80.8	63.6	17.2	65.8	62.7	W. ^s	W. ^s	NW. ^s	82	.11	16
29.951	60.0	76.8	85.7	63.7	22.0	66.4	60.5	NW. ^s	SW. ^s	SW. ^s	90	.....	17
29.886	70.7	74.4	84.0	65.9	18.1	67.2	63.7	SW. ^s	S. ^s	W. ^s	82	.....	18
29.845	64.3	71.0	78.5	65.1	13.4	62.7	57.6	NW. ^s	NW. ^s	NW. ^s	121	.....	19
29.806	58.7	74.3	81.5	64.2	17.3	64.2	58.3	W. ^s	NW. ^s	SE. ^s	103	.....	20
29.780	86.3	66.3	73.5	60.8	12.7	63.3	61.7	NE. ^s	N. ^r	N. ^s	140	1.63	21
29.919	66.0	75.2	85.3	62.4	22.9	66.4	61.7	NW. ^s	W. ^s	W. ^s	88	* (—)	22
30.067	70.7	72.4	81.6	66.0	15.6	65.2	61.2	W. ^s	N. ^s	N. ^s	101	.03	23
30.114	64.0	73.1	82.5	60.2	22.3	64.3	59.3	N. ^s	S. ^s	S. ^s	92	.....	24
29.978	75.0	73.4	79.7	68.3	11.4	67.7	64.9	SW. ^s	S. ^s	SE. ^s	124	.07	25
29.830	83.7	75.0	85.9	67.9	18.0	70.8	69.0	S. ^s	S. ^s	NE. ^s	137	3.25	26
29.769	80.3	76.4	85.8	67.8	18.0	71.5	69.3	N. ^s	NW. ^s	SW. ^s	83	.09	27
29.841	70.7	78.4	86.7	68.2	18.5	70.9	67.5	N. ^s	S. ^s	0	73	.....	28
29.905	79.0	79.5	89.8	70.0	19.8	73.8	71.5	S. ^s	SW. ^s	S. ^s	82	.....	29
29.895	73.3	81.2	90.2	74.0	16.2	74.3	71.5	S. ^s	S. ^s	S. ^s	81	.....	30
29.928	84.7	76.1	83.8	71.6	12.2	72.6	71.1	N. ^s	N. ^s	S. ^s	72	.09	31
928.081	2305.7	2292.4	2554.9	2049.6	505.3	2097.4	1996.0	.....	.....	.....	3,338	10.63	
29.938	74.4	73.9	82.4	66.1	16.3	67.7	64.4	NW.	S.	{SE. S.}	107.7	.343	

* Dash (—) in rain-fall column indicates precipitation inappreciable.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.

Barometer corrected for temperature, elevation above sea, and instrumental error.

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TABLE X—Continued.

AUGUST, 1886.

Day of month.	Color.	Mortality.																			Total deaths by color.	Total deaths.					
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Croup.	Diphtheria.	Diarrhoeal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Nervous diseases.			Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																		
1.....	W.	5	1				5	1	1			2	1							1				2	6	14	
2.....	C.	8	1				3	1	1			1								1				4	9	13	
3.....	W.	4					2					3				1	2						1	2	6	15	
4.....	C.	6					3					2				2							1	1	9	15	
5.....	W.	6					2					2								1				2	6	8	
6.....	C.	10	1	1			1					3	1			4				1				2	12	21	
7.....	W.	11	1				3					1	1			2				1				3	12	21	
8.....	C.	11					2					1	1			1			1	1			2	11	15		
9.....	W.	4					2	1				1	1			1							2	4	5	10	
10.....	C.	5					4					1	1										1	1	5	10	
11.....	W.	5	1				4					1	1			1				2				1	4	10	
12.....	C.	8	1				3	7	2	1		1	1			1	1			3				2	9	21	
13.....	W.	12					1					4	1							1				1	2	12	21
14.....	C.	6	1				1	3				1	1			3				3				2	7	22	
15.....	W.	15					3	8	1	1		4	1	1		2				2				3	15	22	
16.....	C.	7					1	1				1	1			1				1				1	7	14	
17.....	W.	7					2					1	1			1				1				3	7	14	
18.....	C.	8					3	1	1	1		1	1			1		1		1			2	1	8	11	
19.....	W.	3					1					1	1										1	3	3	12	
20.....	C.	9					3					1	1							1				3	5	12	
21.....	W.	3					1					1	1							1				1	3	9	
22.....	C.	6					5	2	2			1	1			1							4	6	6	11	
23.....	W.	6					1	1				2				1							1	2	6	11	
24.....	C.	5					4					1	1			1				1			1	1	5	11	
25.....	W.	8					6	1	1			3	2			3				1			2	2	8	14	
26.....	C.	10					4	1	1			2	2			1			1	2			1	2	10	19	
27.....	W.	9					1					1	1			2	1			2				3	9	19	
28.....	C.	3					1					1	1			2							1	1	3	9	
29.....	W.	6					1	5	2	2		1	1			1							4	6	6	11	
30.....	C.	5					1	1				2				1				1			2	2	6	11	
31.....	W.	8					4					3	1										1	1	8	16	
1.....	C.	8					6	1	1			1				1				1				1	1	8	16
2.....	W.	5					3					1												1	1	8	16
3.....	C.	7					4	1	1			2												2	2	8	16
4.....	W.	5					2					1												1	1	8	16
5.....	C.	8					6					3	1	1					1	1				1	4	8	16
6.....	W.	5					1	2				1				2								1	2	5	12
7.....	C.	7					3					1				1								2	4	7	12
8.....	W.	6	1		1		1	2	1							1								3	8	14	
9.....	C.	6					2					1	1			1			1					1	6	14	
10.....	W.	5					2					1	1											1	5	13	
11.....	C.	8					3					2				3							2	2	8	10	
12.....	W.	5					2					1				1								1	5	15	
13.....	C.	9					4	1				2	1			1	1		2					2	9	15	
14.....	W.	6					3					1												1	2	9	15
15.....	C.	9					5					2	1			1	1		2					2	9	15	
16.....	W.	6					4					1												1	2	9	15
17.....	C.	8					6					3	1			2				2				2	6	12	
18.....	W.	10					4	1	1			2				3			1	2				2	10	15	
19.....	C.	9					4	1	1			1	2			1			1	2				3	9	19	
20.....	W.	3					1					1	1			2				2				1	3	9	9
21.....	C.	6					5	2	2			1	1			1							4	6	6	11	
22.....	W.	6					1	1				2				1							1	2	6	11	
23.....	C.	5					4					1	1							1			1	1	5	11	
24.....	W.	8					6	1	1			3	1	1									1	1	8	16	
25.....	C.	8					4					1								1				1	4	8	16
26.....	W.	5					2					1												1	1	8	16
27.....	C.	7					3					1				2								2	5	12	
28.....	W.	6	1		1		1	1								1								1	2	7	12
29.....	C.	5					2					1	1											1	1	8	18
30.....	W.	7					3	2	1			1				1				3				2	8	18	
31.....	C.	7					2					1		1		1								1	7	12	
1.....	W.	5					5																	2	7	12	
2.....	C.	6					4					1								1				2	6	12	
3.....	W.	3	1				1	1	1							2								1	3	6	12
4.....	C.	4					1									1								1	1	4	8
Total.....	W.	209	9	*1	1	42	82	14	9	2	6	35	12	4	7	24	5	4	2	29	9	4	17	49	220	423	
	C.	201	1	1		27	118	11	7		4	43	7	3	3	29	7	4	2	20	7	1	16	55	203		
Means.....																											

* Injury during the late war.

TABLE X—Continued.

AUGUST, 1886.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
29.795	89.3	75.9	81.5	72.5	9.0	73.4	75.2	NE.*	S.*	0	60	.86	1
29.742	59.7	74.4	84.3	68.0	16.3	64.3	58.1	NW.*	NW.*	NW.*	184	.01	2
29.958	53.7	67.4	76.6	63.0	16.6	57.1	49.3	W.*	NW.*	NW.*	160	.....	3
30.066	60.7	67.3	77.9	57.1	20.8	58.5	52.3	W.*	W.*	NW.*	92	.....	4
30.025	74.7	70.1	80.6	57.2	23.4	64.4	60.8	W.*	S.*	SW.*	123	.....	5
29.952	84.0	68.9	74.1	65.0	9.1	65.6	63.8	SE.*	E.*	NE.*	125	.07	6
29.925	89.3	66.7	70.9	64.0	6.9	64.5	63.4	NE.*	NE.*	N.*	187	.04	7
30.188	76.0	71.8	81.8	60.4	21.4	66.2	63.4	N.*	SW.*	SE.*	86	.....	8
30.316	75.0	72.6	81.9	63.0	18.9	66.5	63.2	S.*	S.*	SE.*	82	.....	9
30.180	90.0	72.2	81.5	64.7	16.8	70.0	69.0	S.*	SE.*	SW.*	65	* (—)	10
29.927	76.7	77.9	90.0	70.0	20.0	71.6	68.7	W.*	NW.*	S.*	100	.....	11
29.892	70.0	78.3	86.5	72.4	14.1	70.7	67.2	NW.*	W.*	W.*	83	* (—)	12
29.887	79.3	77.2	86.9	70.1	16.8	72.0	69.9	SW.*	S.*	S.*	92	.01	13
29.837	80.7	75.5	81.7	68.9	12.8	70.8	68.8	SW.*	NW.*	W.*	100	.13	14
30.041	64.0	72.2	79.5	66.9	12.6	69.6	58.5	NE.*	N.*	S.*	104	.....	15
29.943	81.7	74.6	80.8	62.9	17.9	70.4	68.6	0	S.*	SW.*	150	.....	16
29.892	78.0	79.0	88.3	73.0	15.3	73.4	71.1	W.*	W.*	NE.*	120	.06	17
30.084	72.0	69.1	75.9	64.8	11.1	63.0	59.5	NE.*	NE.*	NE.*	171	* (—)	18
30.211	71.7	68.1	77.2	59.1	18.1	61.7	57.8	W.*	NE.*	E.*	147	.....	19
30.285	69.3	67.4	77.2	56.7	20.5	60.5	56.1	E.*	E.*	E.*	105	.....	20
30.187	72.7	67.8	77.1	57.0	20.1	61.5	57.5	NE.*	NE.*	E.*	84	.....	21
29.981	69.7	66.0	76.9	56.5	20.4	59.1	54.6	N.*	SE.*	SE.*	79	.....	22
29.909	77.3	69.4	77.1	55.8	21.3	64.3	61.7	SE.*	SE.*	SE.*	67	.....	23
29.933	78.7	74.1	81.7	64.6	17.1	69.1	66.8	SE.*	NE.*	N.*	90	* (—)	24
30.028	71.3	77.2	87.4	65.7	21.7	69.6	66.1	NW.*	N.*	SE.*	88	.....	25
30.042	76.0	78.8	89.1	69.3	19.8	72.6	69.9	E.*	W.*	S.*	59	.....	26
29.994	74.3	79.7	92.0	68.6	23.4	72.6	69.6	SW.*	S.*	SW.*	62	.....	27
29.910	77.0	79.3	90.5	71.0	19.5	73.3	70.9	SW.*	SW.*	SW.*	105	.....	28
29.830	77.0	78.1	88.1	71.4	16.7	72.2	69.7	SW.*	S.*	SE.*	133	.....	29
29.736	82.3	77.2	87.5	68.8	18.7	72.6	70.7	S.*	S.*	SW.*	129	1.14	30
29.838	72.0	71.7	77.0	64.8	12.2	65.3	61.6	NW.*	NW.*	N.*	124	.11	31
929.534	2324.1	2265.9	2539.5	2010.2	529.3	2080.4	1981.1	.....	.....	.....	3,371	2.43	
29.985	75.0	73.1	81.9	64.8	17.1	67.1	63.9	NE. & SW. }	S. }	SE. & SW. }	108.7	.078	

* Dash (—) in rain-fall column indicates precipitation inappreciable.
 The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
 Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.
SEPTEMBER, 1886.

[illegible]

TABLE X—Continued.
SEPTEMBER, 1886.

Meteorological condition.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.251	63.7	64.0	73.3	56.5	16.8	56.1	50.0	NW.	N.	NE.	127	.....	1
30.390	62.3	63.9	73.7	53.4	20.3	55.8	49.5	NE.	NE.	NE.	90	.....	2
30.392	68.3	65.2	74.8	51.9	22.9	58.0	53.1	NE.	NE.	NE.	100	.....	3
30.338	72.0	65.2	73.9	54.9	19.0	59.2	55.4	NE.	E.	NE.	122	.....	4
30.300	79.7	69.7	77.1	60.2	16.9	65.2	62.8	NE.	SE.	NE.	83	.....	5
30.340	75.3	70.0	79.2	63.9	15.3	64.3	61.1	NE.	NE.	NE.	92	.....	6
30.310	78.3	73.5	81.9	62.0	19.9	68.3	65.8	N.	SE.	E.	78	.....	7
30.167	85.3	73.0	79.4	68.6	10.8	69.8	68.3	E.	N.	NE.	95	.01	8
29.955	90.7	72.0	76.1	68.7	7.4	70.0	69.1	N.	N.	NE.	126	.67	9
29.869	79.0	77.6	87.2	69.4	17.8	72.4	70.2	0	S.	S.	74	.....	10
29.976	62.3	73.8	81.2	66.2	15.0	64.4	58.6	NW.	NW.	NE.	111	.....	11
29.820	72.3	71.1	84.8	62.3	22.5	64.8	61.4	W.	SW.	NW.	131	.30	12
30.014	62.3	64.0	72.8	55.9	16.9	55.9	49.6	NW.	NW.	W.	131	.....	13
30.067	75.3	65.7	75.0	52.5	22.5	60.3	57.0	0	SW.	SW.	91	.....	14
30.165	90.3	67.1	70.2	64.0	6.2	65.2	64.2	0	SE.	E.	86	.29	15
30.116	83.3	76.4	84.5	63.2	21.3	72.3	70.6	S.	S.	S.	127	.27	16
30.119	72.0	79.4	89.1	69.9	19.2	72.1	69.0	S.	SW.	SW.	111	.....	17
30.316	63.7	71.7	78.3	66.5	11.8	63.2	58.1	N.	NE.	E.	137	.....	18
30.119	86.0	70.1	75.9	61.2	14.7	67.1	65.6	S.	S.	S.	122	.02	19
30.109	56.7	63.7	71.6	54.1	17.5	54.4	46.8	N.	NW.	N.	186	.....	20
30.196	71.1	60.5	72.1	47.0	25.1	54.6	50.4	NW.	NW.	SW.	70	.....	21
30.187	66.3	65.0	73.3	54.9	18.4	57.8	52.9	NE.	S.	SW.	118	*—	22
30.105	74.3	69.7	79.7	58.5	21.2	63.8	60.5	SW.	SW.	NW.	107	.....	23
30.236	76.0	68.1	77.0	61.6	15.4	62.7	59.5	NE.	S.	S.	82	.....	24
30.229	83.0	69.7	79.9	59.2	20.7	65.8	63.8	S.	S.	S.	110	.....	25
30.044	81.0	71.7	82.8	62.4	20.4	67.5	65.5	S.	SW.	SW.	208	.01	26
29.917	75.7	77.7	89.0	67.0	22.0	71.2	68.3	SW.	SW.	SW.	68	.....	27
29.850	66.3	80.3	91.2	68.1	23.1	70.9	66.7	SW.	S.	SW.	127	.....	28
30.041	71.3	59.3	79.5	54.1	25.4	53.6	48.8	N.	NW.	N.	197	.22	29
29.912	67.3	60.5	71.3	48.5	22.8	53.6	48.2	N.	SW.	SW.	57	.....	30
903.840	2,211.7	2,079.6	2,355.8	1,806.6	549.2	1,900.3	1,790.8	.....	...	.....	3,364	1.79	
30.128	73.7	69.3	78.5	60.2	18.3	63.3	59.7	NE.	SW.	NE.	112.1	.060	

* Dash (—) in rain-fall column indicates precipitation inappreciable.
The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.
OCTOBER, 1886.

Day of month.	Color.	Mortality.																							Total deaths.						
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Scarlet fever.	Diphtheria.	Croup.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Nervous diseases.	Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.		All other diseases.	Total deaths by color.				
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																						
1.....	W.	8	1	1	1	3						1	1				1								4	1	10	15			
2.....	C.	5				3		1													1						5	11	16		
3.....	W.	4	1		1	3				1	1		1			1	3				1					1	5	11	16		
4.....	C.	11				8						1															2	11	19		
5.....	W.	11				7		1	1							1	3			2					1	8	9	18			
6.....	C.	9				2		1													2						4	9	17		
7.....	W.	9		1		1		1	1								3	1		1				1		3	7	10	17		
8.....	C.	10				6						1				1	1			3	2		1			4	10	7	15		
9.....	W.	7				4		1								1	1		2		1				1	3	7	8	15		
10.....	C.	8			1	5		2	1							1	1			1	2					1	6	10	16		
11.....	W.	6			1	2																					4	8	12		
12.....	C.	10	1			2		4	1							1	1			1	1					1	4	10	12		
13.....	W.	4	1					1																			1	5	9	9	
14.....	C.	5									1	1								1						2	4	4	22		
15.....	W.	11			4	5										1	1		1	1					4	4	11	5	9	22	
16.....	C.	11			3	4							1	2	1										1	1	11	4	11	9	
17.....	W.	5			2	2		1	1																	3	5	2	4	22	
18.....	C.	4															1			1	1					1	2	10	7	9	
19.....	W.	12			3	3		1								1	4			1	1				2	1	12	2	7	8	
20.....	C.	10				5		1	1							2	2								1	2	2	2	3	11	
21.....	W.	2		1		1																					3	8	3	17	
22.....	C.	6				2		2	1																	2	3	8	9	13	
23.....	W.	3				1											1			1	1					1	1	4	6	13	
24.....	C.	8	1			1		4	1		1						2	1								1	1	7	4	16	
25.....	W.	11			3	2										1	1		1							1	1	12	2	16	
26.....	C.	4				1																					1	7	4	13	
27.....	W.	7			1	2		3	1								2										1	7	6	13	
28.....	C.	5	1			1		1	1								1										4	6	6	13	
29.....	W.	6				1											1										1	7	5	7	
30.....	C.	5																									4	5	2	10	18
31.....	W.	8	1			1		2																			1	6	8	9	14
32.....	C.	3																									2	3	1	9	8
33.....	W.	10			2	3			1							1	1		1								5	1	1	7	14
34.....	C.	3				2																					1	3	4	10	10
35.....	W.	4			1	2																					2	6	9	5	14
36.....	C.	6																									1	5	6	9	9
37.....	W.	8				1											2										2	3	5	6	6
38.....	C.	3																									1	3	2	4	8
39.....	W.	2																									4	1	7	1	8
40.....	C.	4	1		1	2		3	1																		1	2	1	9	14
41.....	W.	5						1									4		1								2	1	5		
Total.	W. O.	211 183	6 3	1 1	3 1	44 17	65 96	8 14	6 3	1	11 3	3 3	6 10	5 8	1 2	10 11	31 34	7 5	6 9	5 1	28 22	10 10	1 1	20 11	66 54	221 188		409			
Means..																															

TABLE X—Continued.
OCTOBER, 1886.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.026	58.0	54.3	64.0	46.7	17.3	46.9	38.6	SW.	NW.	N.	197	.....	1
30.360	60.3	48.9	60.2	39.1	21.1	42.4	34.5	NW.	W.	NW.	106	.....	2
30.399	60.7	51.1	65.8	38.1	27.7	45.6	40.4	NW.	SW.	S.	56	.....	3
30.120	73.7	53.7	68.9	39.7	29.2	48.6	44.1	0	S.	S.	61	.....	4
30.114	66.7	58.6	71.3	46.0	25.3	51.7	46.1	NW.	E.	NE.	92	.....	5
30.117	70.0	60.3	72.1	52.1	20.0	54.2	49.6	N.	N.	N.	110	.....	6
30.201	66.3	59.6	74.6	47.0	27.6	52.4	46.5	NW.	NE.	NE.	84	.....	7
30.268	75.3	58.6	73.6	44.8	28.8	53.5	49.8	NE.	S.	S.	55	.....	8
30.220	72.7	61.9	70.2	45.8	33.4	55.7	51.6	S.	S.	0	53	.....	9
30.218	70.3	64.3	80.9	47.0	33.9	57.4	52.9	SW.	E.	S.	39	.....	10
30.213	67.7	64.3	79.0	49.9	29.1	56.6	51.3	0	S.	0	42	.....	11
30.070	70.7	64.6	82.0	50.2	31.8	56.9	51.5	W.	NW.	NW.	74	.....	12
30.055	69.3	68.7	83.2	54.9	28.3	61.1	56.4	NW.	SE.	S.	77	.....	13
29.905	81.3	68.2	71.2	62.3	8.9	64.3	62.2	SE.	S.	SW.	197	*—	14
30.017	55.0	62.6	68.9	56.0	12.9	53.3	45.4	NW.	NW.	NW.	218	.02	15
30.371	56.0	48.4	57.2	40.5	16.7	41.5	32.4	N.	NW.	NE.	209	.....	16
30.369	61.0	50.5	60.1	33.3	26.8	43.9	36.7	NE.	S.	S.	141	.....	17
30.285	64.3	61.5	76.4	45.3	31.1	53.7	47.3	SW.	S.	W.	124	.....	18
30.469	83.3	60.8	67.0	49.9	17.1	57.4	55.1	NE.	E.	E.	117	.....	19
30.378	81.7	62.4	70.8	52.5	18.3	58.5	56.0	E.	S.	S.	78	.....	20
30.166	56.3	60.4	73.6	50.3	23.3	51.4	42.9	SW.	N.	N.	155	.04	21
30.200	65.0	52.9	68.0	40.9	27.9	46.0	38.7	N.	W.	W.	68	.....	22
30.184	53.3	50.1	74.8	43.1	31.7	49.1	39.1	0	NE.	E.	68	.....	23
30.311	66.0	55.9	65.8	47.6	18.2	49.9	44.4	NE.	E.	S.	118	.....	24
30.221	72.7	60.5	71.0	48.2	22.8	55.0	50.8	0	S.	SE.	75	.....	25
30.236	94.3	55.1	61.8	48.0	13.8	54.0	53.3	NE.	NE.	N.	115	.43	26
30.003	95.3	53.8	57.8	44.8	13.0	53.1	52.5	NW.	NE.	NE.	99	.53	27
29.919	75.7	51.7	56.8	47.0	9.8	47.7	43.9	N.	NW.	N.	145	.03	28
30.012	72.3	47.2	53.4	43.9	9.5	43.2	38.8	NW.	N.	NW.	160	*—	29
30.029	83.7	51.3	55.9	45.0	10.9	48.7	46.4	NW.	NW.	NW.	281	.10	30
29.978	62.0	55.2	61.5	49.0	12.5	48.2	41.2	NW.	N.	NW.	193	.05	31
935.434	2,169.9	1,786.4	2,126.8	1,448.9	677.9	1,601.9	1,440.4	.....	.....	.....	3,602	1.20	
30.175	70.0	57.6	68.6	46.7	21.9	51.7	46.5	NW.	S.	S.	116.2	.089	

* Dash (—) in rain-fall column indicates precipitation inappreciable.
The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

NOVEMBER, 1886.

Day of Month.	Color.	Mortality.																									
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Diphtheria.	Croup.	Diarrhoeal diseases.	Typhoid fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Nervous diseases.	Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.	
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																		
1	W.	7	1		1	2	1		1						2										8	9	
2	W.	1				1									2						1			1	1	5	8
3	W.	3			1	1									1						2		4	3	8	14	
4	W.	6			2	4						1			1						1		2	6	6	13	
5	W.	7			4	3						1			4	1					1		1	3	7	12	
6	W.	6			1	1						1			1	1					1		3	1	5	12	
7	W.	5			4	2						1			1	1					1		4	2	9	14	
8	W.	9				3						1			1	1					1		1	2	5	14	
9	W.	8				3						1			1	1				1		3	3	5	8	13	
10	W.	5				2						1			3					1		1	1	6	5	11	
11	W.	4	1		1	2						1			1	2		1				2	2	9	6	15	
12	W.	6	1		1	1						1			2	1		1				2	1	7	8	15	
13	W.	8			2	1						2			1	1						1	3	7	4	6	
14	W.	4			1							1			1	1						1	1	2	7	12	
15	W.	7			3	2						1			1	1				3		1	1	1	5	13	
16	W.	5			1	2						1			2	1				1		1	1	2	6	11	
17	W.	4				1						1			1	1				2		1	1	4	7	11	
18	W.	7			2	5						1			1	3				2		1	1	7	5	12	
19	W.	4				1						1			2	1				1		1	3	9	7	13	
20	W.	9				3						2			1	4				3		1	3	10	3	13	
21	W.	3			1	1						1			1	1				1		1	1	3	9	11	
22	W.	9			1	2						1			2	2				1	2	2	9	2	2	11	
23	W.	3	2		3										1	2				1			1		2	8	
24	W.	4	1		2										2	1				1			1	5	5	8	
25	W.	8			2	3						1			4	1				1		1	3	11	6	19	
26	W.	11			2	4						1			1	1				1		1	2	6	3	9	
27	W.	5	1		2										1	1						1	4	4	4	15	
28	W.	2			4	1						1			1	1				1		1	3	8	3	11	
29	W.	3			1	2						1			2	1				2		1	1	7	7	15	
30	W.	7			2	3						1			1	1				1		1	4	8	5	15	
31	W.	4	1		3	1						1			1	1				1		1	1	5	6	10	
32	W.	5			2	2						1			1	1				1			1	5	5	9	
33	W.	4				1									2	1				2		1	4	4	4	10	
34	W.	6			1	2						1			1	1				1		1	1	6	9	15	
35	W.	8	1		2	3						1			2	2				1		2	1	6	3	9	
36	W.	5			2	1									1	1				2		1	2	6	6	15	
37	W.	3	1		2	2						1			1	1				1		1	2	6	6	9	
38	W.	8			1	1									2	2				1		1	3	9	9	15	
Total	W.	187	6	1	47	39	6	3	8	2	11	9	4	33	9	4	3	1	21	11	1	14	53	194	360		
Means	C.	157	7	2	26	66	8	3	2		4	3	2	38	11	11	1		27	4	1	9	44	166			

* One colored infant, date of death unknown; certificate of coroner received 24th.

TABLE X—Continued.

NOVEMBER, 1886.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.082	62.0	56.3	68.6	49.0	19.6	49.0	42.2	NW.	N.	NW.	198	.....	1
30.157	62.0	58.1	73.1	44.6	28.5	50.0	42.6	NW.	S.	S.	55	.....	2
29.960	64.7	59.0	70.9	50.4	20.5	52.0	46.2	0	S.	S.	64	.....	3
30.139	47.7	59.5	59.9	38.0	21.9	41.6	28.9	NW.	NW.	NE.	143	.....	4
30.199	69.3	51.1	64.5	33.8	30.7	45.8	40.6	N.	S.	S.	84	.....	5
29.883	84.3	49.0	64.5	34.4	30.1	47.3	45.2	S.	SW.	NW.	154	.35	6
29.946	48.0	36.2	42.0	32.8	9.2	30.1	17.4	NW.	NW.	NW.	324	.02	7
30.169	53.0	34.4	39.1	29.0	10.1	29.2	18.3	W.	NW.	W.	190	.....	8
30.234	55.7	40.4	49.5	27.4	22.1	34.3	24.4	SW.	S.	S.	113	.....	9
30.119	61.7	49.2	56.0	41.3	14.7	43.4	36.5	SW.	S.	0	71	\$—	10
30.176	64.3	52.1	62.6	41.4	21.2	45.7	39.0	0	NW.	N.	87	.....	11
29.840	87.7	47.6	54.8	41.1	13.7	45.8	44.1	NE.	NE.	NW.	171	.74	12
29.890	57.3	37.3	49.4	34.0	15.4	32.2	23.3	NW.	NW.	NW.	425	.....	13
30.184	43.3	40.7	48.3	32.0	16.3	33.2	19.3	NW.	NW.	W.	242	.....	14
30.293	54.0	44.1	55.8	34.8	21.0	37.2	26.4	W.	NW.	0	89	.....	15
30.410	63.0	40.9	52.5	29.3	23.2	35.8	28.1	N.	S.	E.	60	.....	16
29.999	81.3	54.7	64.0	39.7	24.3	51.5	49.0	NE.	S.	S.	97	.03	17
29.690	51.0	56.0	70.9	42.5	28.4	47.5	34.9	SW.	NW.	SW.	321	.36	18
30.031	43.7	41.9	54.5	33.0	21.5	33.7	18.1	SW.	NW.	S.	145	.....	19
29.942	57.0	45.6	53.0	32.2	20.8	39.2	30.6	SW.	S.	W.	66	.....	20
30.103	59.3	46.9	53.8	39.1	14.7	40.7	32.9	N.	S.	SW.	44	.....	21
30.168	76.7	45.8	50.8	42.1	8.7	42.5	38.6	NE.	E.	E.	88	.06	22
29.668	78.7	63.4	69.9	46.6	23.3	58.9	56.2	SW.	SW.	SW.	273	.29	23
29.855	48.7	53.7	67.2	48.3	18.9	44.7	34.2	NW.	NW.	NE.	188	*—	24
29.859	82.0	37.5	49.9	32.0	17.9	35.4	32.1	NE.	NW.	NW.	256	†.91	25
30.362	62.0	29.9	36.6	26.1	10.5	26.3	18.2	NW.	NW.	0	213	†—	26
30.342	69.3	32.4	41.0	22.2	18.8	28.9	22.5	NW.	NW.	0	48	.....	27
30.123	70.7	37.5	48.3	23.2	25.1	33.5	27.5	0	S.	S.	73	.....	28
29.838	60.7	46.6	55.6	35.7	19.9	40.4	32.6	SW.	SW.	SW.	128	.....	29
29.718	80.3	42.0	48.0	39.1	8.9	39.6	36.3	NE.	SW.	NW.	92	.12	30
901.379	1,899.4	1,381.7	1,675.0	1,095.1	579.9	1,215.4	986.2	.....	.....	.....	4,502	2.88	
30.046	63.3	46.1	55.8	36.5	19.3	40.5	32.9	NW.	NW.	NW.	150.1	.096	

* Dash (—) in rain-fall column indicates precipitation inappreciable.

† Rain and melted snow.

‡ Melted snow.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

DECEMBER, 1886.

Day of month.	Color.	Total deaths, less those by violence.	Deaths by violence.		Deaths by ages.										Mortality.															Total deaths.
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.	Diphtheria.	Croup.	Diarrhœal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Nervous diseases.	Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths by color.				
1.....	W.	6				2									3					1	1			6	9					
	C.	3				1																		3						
2.....	W.	7				2	2	1				1			1			1	2	1				7	11					
	C.	4				1	1	1	1						3									4						
3.....	W.	5				2	1	1				1			1	1								5	9					
	C.	3	1				1	1	1			1			1									4						
4.....	W.	10				1	3	2	2			2			1				1	1				10	12					
	C.	2					2	2	2		1	1			1									2						
5.....	W.	10				4	2	2	2	2		2			2									4	17					
	C.	7				1	1	2	1	1		1	1											6						
6.....	W.	9			1	3	2	2	1	1	1				1	1								3	14					
	C.	4				1	1	2	1						1	1	1							1						
7.....	W.	7				1	1	1	1			1			2									7	13					
	C.	6				1	4			1					1	2								6						
8.....	W.	9		1		3	1								2				1	2				4	13					
	C.	3										1												2						
9.....	W.	7					2								1	2		1						1	13					
	C.	6					2	1				1	1			2								2						
10.....	W.	2				1	2								1									2	9					
	C.	7				3	1								2									7						
11.....	W.	5					1								2									5	7					
	C.	2																						2						
12.....	W.	1				1									1									1	4					
	C.	3					1								1		1							3						
13.....	W.	2					2									1								2	5					
	C.	3				1	2								1									3						
14.....	W.	10		1		5	2								1									11	16					
	C.	4	1			1	2								1									5						
15.....	W.	6				1									1									4	9					
	C.	3													2									3						
16.....	W.	2			1	1									1									1	10					
	C.	6	1			2									1									7						
17.....	W.	6				1	1	1							2	1								3	10					
	C.	4										1			1									1						
18.....	W.	5				3									1	1								1	13					
	C.	8				1	2	2	1						2	2								3						
19.....	W.	5				1	1								1	1								1	11					
	C.	4	1	1			2								1									1						
20.....	W.	4				1									1									4	8					
	C.	4				1		1							1	2								4						
21.....	W.	9				3	1								4	1								9	19					
	C.	10				4	3										2	1						10						
22.....	W.	5				2									3									5	8					
	C.	3					1	1							1									3						
23.....	W.	4													1		1							4	7					
	C.	3					2								2	1								3						
24.....	W.	9				1	3								3									9	13					
	C.	4					1								1									4						
25.....	W.	5				2	1								1									6	12					
	C.	5	1			1	3								1									5						
26.....	W.	4			1	1									1	1								6	11					
	C.	4	2			2	1								1	1								3						
27.....	W.	4	1		1										1	1								6	12					
	C.	6					2								1	1								6						
28.....	W.	4	2				1								2									6	16					
	C.	10				1	4	1							2	2								10						
29.....	W.	10				4									2	2								4	14					
	C.	4					3	1	1						2									4						
30.....	W.	4													1									2	10					
	C.	6				3	2								2	1								6						
31.....	W.	7					2								1	2								7	12					
	C.	4	1				3	1	1						1									5						
Total ..	W.	183	4	2	4	47	40	9	5	3	2	2	9		40	16	2	4	1	24	13	1	10	56	193					
	C.	145	8	1		25	50	11	5	1	1	3	7	1	25	20	7	3		14	10		12	40	154					
Means ..																														

TABLE X—Continued.

DECEMBER, 1886.

Meteorological condition.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
29.779	62.0	38.9	49.4	34.2	15.2	34.2	26.5	SW.	NW.	NW.	172	.....	1
30.126	54.0	18.6	36.0	15.2	20.8	15.5	4.5	NW.	W.	W.	402	.....	2
30.359	52.3	20.8	26.9	16.8	10.1	17.3	5.9	W.	NW.	NW.	229	.....	3
30.563	73.0	20.9	27.0	16.4	10.6	19.1	13.4	NW.	NW.	NE.	128	‡.09	4
30.274	83.7	20.8	25.0	14.3	10.7	19.6	16.6	N.	N.	N.	262	\$.42	5
30.054	82.0	27.6	30.8	22.9	7.9	26.1	22.8	N.	NW.	N.	287	||.14	6
30.171	82.0	26.9	34.4	21.9	12.5	25.3	21.9	N.	NW.	NW.	273	‡\$.39	7
30.321	68.3	28.3	45.4	14.8	30.6	24.9	18.1	0	S.	0	39	.....	8
30.417	65.0	29.8	47.3	16.0	31.3	25.6	17.1	0	S.	0	28	.....	9
30.406	73.7	29.7	47.2	15.8	31.4	26.7	21.4	0	S.	0	21	.....	10
30.254	73.0	34.5	51.9	18.9	33.0	31.2	26.2	W.	S.	NW.	26	.....	11
29.998	79.0	40.7	43.2	32.3	10.9	38.1	34.5	NE.	N.	N.	144	.04	12
29.614	98.0	37.0	42.9	33.8	9.1	36.7	36.4	NE.	S.	SW.	60	.07	13
29.738	58.7	39.9	46.4	34.2	12.2	34.7	26.5	NW.	NW.	S.	161	.....	14
29.655	81.0	31.0	41.3	17.1	24.2	29.2	25.9	S.	N.	N.	149	†.50	15
30.083	77.7	17.7	25.5	14.4	11.1	16.2	11.9	N.	NW.	W.	290	†—	16
30.332	62.0	25.3	32.6	10.8	21.8	21.8	13.6	S.	S.	S.	78	.....	17
29.909	85.7	36.5	39.8	32.8	7.0	34.8	32.0	S.	S.	SW.	126	||.51	18
30.141	68.3	35.9	41.5	29.3	12.2	32.2	25.7	0	N.	N.	76	.....	19
30.279	63.7	31.6	36.9	26.5	10.4	27.8	19.8	N.	N.	N.	108	.....	20
30.255	70.0	33.6	43.9	22.4	21.5	30.0	23.9	N.	S.	0	48	.....	21
30.302	73.0	38.1	47.2	29.0	18.2	34.8	29.8	S.	NW.	0	25	—	22
30.364	79.3	37.2	41.3	30.1	11.2	34.8	31.2	N.	N.	0	48	.01	23
29.897	79.7	43.9	54.2	33.0	21.2	41.0	37.7	E.	N.	NW.	79	.31	24
30.170	63.7	32.2	42.4	27.4	15.0	28.5	21.2	N.	N.	E.	239	.....	25
30.134	87.3	26.4	31.0	22.9	8.1	25.2	22.9	NE.	N.	N.	92	‡.03	26
30.192	68.7	33.0	40.9	18.6	22.3	29.5	23.2	N.	NW.	N.	94	.....	27
30.323	61.0	31.2	36.2	24.9	11.3	27.2	18.9	NE.	SE.	S.	73	.....	28
30.300	66.3	29.4	33.9	24.7	9.2	26.1	18.6	NE.	NE.	E.	112	†—	29
30.263	96.0	22.5	26.5	18.6	7.9	22.2	21.5	NE.	N.	N.	175	||‡.10	30
29.921	97.3	32.9	35.0	20.7	14.3	32.7	32.3	NE.	N.	N.	104	||.83	31
934.684	2,285.4	952.8	1,203.9	710.7	493.2	869.0	701.9	.....	.....	.....	4,148	3.44	
30.151	73.7	30.7	38.8	22.9	15.9	28.0	22.6	N.	N.	N.	133.8	.111	

* Dash (—) in rain-fall column indicates precipitation inappreciable.

† Rain and snow.

‡ Snow.

§ Sleet.

|| Sleet and rain.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.

Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

JANUARY, 1887.

Day of month.	Color.	Mortality.																
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Scarlet fever.	Diphtheria.	Croup.	Diarrheal diseases.	Typhoid fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.									
1.....	W.	9				2	2								1	2		1
2.....	W.	6				1										2		
3.....	W.	3					2									1		
4.....	W.	4				1	1									2		
5.....	W.	3				1	2									2		
6.....	W.	3				3										2		
7.....	W.	5				1	3									1		
8.....	W.	4				1	1									1		
9.....	W.	5				1	1									1		
10.....	W.	6	3			1	1									2		
11.....	W.	5		1		4										1		
12.....	W.	9				2	1						1			2		
13.....	W.	3				1	1									1		
14.....	W.	7				3	1	1								3		
15.....	W.	8				2	2	1								3		
16.....	W.	6				1	2					1				1		
17.....	W.	4				2	2									1		
18.....	W.	5				1	3									1		
19.....	W.	4				2	2									1		
20.....	W.	12				2	2				1		1	1		2		
21.....	W.	5				1	2									1		
22.....	W.	5				3	2					1				1		
23.....	W.	6				2	2									1		
24.....	W.	9				4	1	1						1		1		
25.....	W.	3				1	2									1		
26.....	W.	4				1	1									2		
27.....	W.	7				1	3									1		
28.....	W.	5				4	2									1		
29.....	W.	7				4	2									2		
30.....	W.	11	1			4	4	1	1							1		
31.....	W.	9				1	2	1	1					1		1		
32.....	W.	8	1	1		2	2	1								1		
33.....	W.	7				2	4		1							2		
34.....	W.	3				2	1									1		
35.....	W.	6				2										2		
Total.....	W.	201	8	1		57	45	7	6	2	3	3	2	3	1	34	17	2
Means.....	C.	157	2			21	60	14	7			1		1		33	19	8

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 855

TABLE X—Continued.

JANUARY, 1887.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet bulb.	Daily mean dew point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	10 p. m.			
29.760	80.0	29.4	35.8	22.7	13.1	27.6	23.7	W.†	N.†	NW.†	187	.16	1
30.178	64.3	16.4	24.0	10.8	13.2	14.2	6.4	NW.†	NW.†	NW.†	291	.....	2
30.602	63.0	13.5	19.1	6.2	12.9	11.3	2.8	NW.†	N.†	N.†	174	.....	3
30.597	61.7	18.7	25.0	8.0	17.0	15.9	6.3	N.†	E.†	E.†	88	.....	4
30.224	88.0	26.3	28.8	13.8	15.0	25.3	23.2	N.†	N.†	N.†	137	‡.16	5
30.167	68.7	25.7	33.0	19.5	13.5	22.9	16.5	N.†	NW.†	0	94	.....	6
30.337	74.7	25.4	34.4	14.4	20.0	23.1	18.1	N.†	N.†	NE.†	67	.....	7
30.438	58.0	16.5	27.0	10.8	16.2	13.8	3.9	N.†	NE.†	E.†	154	.....	8
30.155	70.7	20.2	28.0	12.5	15.5	18.1	12.0	E.†	S.†	S.†	67	01	9
29.857	64.0	22.2	29.0	14.4	14.6	19.5	10.1	NW.†	NW.†	NW.†	206	†(—)	10
30.015	73.3	22.3	30.0	10.1	19.9	20.3	15.1	W.†	S.†	S.†	104	.....	11
29.787	60.3	35.6	46.9	20.9	26.0	30.6	22.0	SW.†	SW.†	SW.†	110	.....	12
29.993	76.7	35.0	44.0	23.9	20.1	32.1	27.4	0	SE.†	NE.†	92	.04	13
29.629	93.3	39.2	45.3	33.0	12.3	38.3	37.3	NW.†	S.†	N.†	73	.25	14
29.841	67.0	34.7	41.1	28.0	13.1	31.0	24.2	0	NW.†	NW.†	197	.....	15
29.973	69.0	36.4	44.6	27.2	17.4	32.6	26.6	S.†	S.†	S.†	84	.....	16
29.607	73.0	36.3	47.1	29.5	17.6	33.3	28.3	0	NW.†	NW.†	176	.07	17
30.087	53.7	17.1	30.7	9.8	20.9	14.1	3.1	NW.†	NW.†	NW.†	342	.....	18
30.169	56.3	22.5	30.0	8.9	21.1	18.8	8.8	SW.†	SW.†	S.†	188	.....	19
29.919	51.7	41.4	48.0	28.3	19.7	35.1	24.5	S.†	SW.†	S.†	162	.....	20
30.253	52.3	49.5	54.0	41.9	12.1	42.0	31.5	S.†	SW.†	SW.†	83	.01	21
30.309	75.0	45.7	55.0	36.3	18.7	42.1	38.0	NE.†	S.†	SW.†	97	.....	22
29.975	72.7	58.2	67.2	44.7	22.5	53.1	49.1	S.†	S.†	S.†	171	.....	23
29.756	76.0	41.7	58.3	33.2	25.1	38.8	34.0	S.†	NW.†	NW.†	232	†.98	24
29.973	49.0	46.1	56.0	30.3	25.7	37.9	26.2	S.†	S.†	SW.†	218	.....	25
30.035	50.3	39.1	50.2	29.0	21.2	32.9	21.7	S.†	NW.†	NW.†	241	†*(—)	26
30.561	53.7	28.3	36.4	20.0	16.4	24.1	13.1	NW.†	S.†	S.†	143	.....	27
30.260	71.0	43.1	52.2	27.2	25.0	39.0	34.0	S.†	S.†	S.†	219	.....	28
29.907	89.0	46.5	54.9	40.1	14.8	45.0	43.4	S.†	NW.†	N.†	163	.71	29
29.834	78.7	43.8	52.2	37.0	15.2	40.8	37.2	SE.†	S.†	SW.†	72	.....	30
30.033	68.7	43.1	53.0	36.4	16.6	38.7	32.9	N.†	E.†	SE.	109	.....	31
932.231	2,103.8	1,019.9	1,281.2	728.8	532.4	912.3	701.4	.....	.....	.....	4,761	2.39	
30.072	67.9	32.9	41.3	23.5	17.8	29.4	22.6	S.	S.	N.W.	153.6	.077	

* Dash (—) in rain-fall column indicates precipitation inappreciable. † Rain. ‡ Snow.
 The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
 Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

FEBRUARY, 1887.

		Mortality.																											
Day of month.	Color.	Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.							Scarlet fever.	Diphtheria.	Croup.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Nervous diseases.	Diseases of circulatory organs.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																				
1	W.	4				1	1																						8
2	W.	10		1		3	3									1													14
3	W.	6			1	1																							13
4	W.	10				5																							15
5	W.	2				1																							4
6	W.	4				1	1																						10
7	W.	4														1													9
8	W.	3																											9
9	W.	4				1	1																						9
10	W.	7				1	1									1													13
11	W.	6			1	1	1																						15
12	W.	8	1			3	4									1													5
13	W.	1				1	1																						13
14	W.	8				5	1																						14
15	W.	5				1	2																						10
16	W.	5				1	1																						12
17	W.	3	1		1	1	2																						11
18	W.	3				1	1																						10
19	W.	4		1		1	1									1													16
20	W.	5				4	3																						8
21	W.	2	1				1																						7
22	W.	3				2	3																						16
23	W.	8				1	4																						15
24	W.	5	1			2	2																						11
25	W.	6																											9
26	W.	3				1	2																						11
27	W.	5	1			1																							12
28	W.	6					1																						10
	W.	7				1	3																						
Total	W.	155	*6	1	3	43	23	2	1	2	2	1	2	2	2	2	3	33	20	8	3	15	14	4	44	165	*310		
Means	C.	141	2	2	0	26	58	6	2							3	31	15	7	3	19	11	9	37	145				

* One white male, date of death unknown.

TABLE X—Continued.

FEBRUARY, 1887.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.461	66.7	36.0	42.0	31.0	11.0	32.3	25.8	N.	E.	NE.	147	.....	1
30.425	91.0	31.3	34.5	26.2	8.3	30.4	28.9	NE.	NE.	0	116	.56	2
30.226	99.0	33.3	38.0	30.3	7.7	33.2	33.1	0	S.	NW.	38	.10	3
30.668	52.3	35.0	39.0	30.0	9.0	29.7	18.6	NW.	N.	NW.	183	.....	4
30.831	87.7	30.2	39.0	28.0	11.0	29.0	26.9	S.	SE.	S.	97	.04	5
30.432	84.7	41.4	50.5	29.0	21.5	39.2	36.8	S.	SW.	0	64	* (—)	6
30.279	87.0	51.0	64.5	41.1	23.4	48.8	47.1	SW.	S.	E.	99	.02	7
30.104	94.7	42.6	46.5	35.2	11.3	41.9	41.2	NE.	SW.	0	83	.....	8
30.291	47.0	46.2	58.0	36.0	22.0	38.0	24.7	NW.	NW.	0	165	.....	9
30.085	70.7	44.2	54.0	29.0	25.0	39.7	33.8	NW.	SW.	SW.	144	.08	10
29.581	62.0	56.2	73.0	47.0	26.0	49.6	42.1	SW.	NW.	NW.	443	.02	11
30.363	66.7	28.8	47.0	26.7	20.3	25.8	19.0	NW.	NW.	N.	245	.....	12
30.750	53.7	25.0	31.6	19.7	11.9	21.2	10.5	N.	NE.	E.	164	.....	13
30.667	70.3	30.0	36.0	18.6	17.4	27.1	21.1	0	SW.	S.	111	.03	14
30.081	89.7	44.1	51.6	33.1	18.5	42.6	41.1	SW.	S.	S.	102	.61	15
29.879	72.7	48.9	59.5	42.0	17.5	44.6	39.9	0	S.	N.	78	* (—)	16
30.019	58.7	45.9	56.0	36.2	19.8	39.6	31.4	NW.	E.	S.	107	.....	17
29.666	91.3	46.6	51.0	40.7	10.3	45.5	44.3	S.	NW.	S.	106	.28	18
29.964	33.3	53.1	61.8	43.1	18.7	41.1	22.4	NW.	W.	NW.	135	.....	19
30.176	81.0	36.1	52.9	32.0	20.9	33.7	29.9	NE.	E.	N.	140	.37	20
30.405	75.0	36.8	41.1	31.2	9.9	33.9	29.6	NE.	N.	S.	105	.01	21
30.374	71.0	43.6	54.2	36.0	18.2	39.4	34.1	S.	N.	N.	153	.....	22
30.384	90.7	33.7	41.3	31.5	9.8	32.8	31.2	NE.	SE.	S.	109	.26	23
29.958	60.0	42.4	57.7	33.6	24.1	36.7	27.8	SW.	NW.	NW.	272	.35	24
30.425	38.3	33.6	41.3	29.4	11.9	26.9	9.4	NW.	N.	E.	139	.....	25
29.851	92.3	33.7	38.0	29.2	8.8	32.9	31.7	E.	NE.	SW.	111	.69	26
29.774	45.3	30.9	41.2	22.9	18.3	25.5	11.6	W.	W.	NW.	364	* (—)	27
30.214	44.3	27.9	34.0	21.7	12.3	22.6	8.2	NW.	NW.	NE.	282	.....	28
846.333	1,977.1	1,086.5	1,335.2	890.4	444.8	983.7	802.2	.....	.....	.....	4,302	3.42	
30.226	70.6	38.9	47.7	31.8	15.9	35.1	28.6	NW.	NW.	S.	153.6	.122	

* Dash (—) in rain-fall column indicates precipitation inappreciable.
 The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
 Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

MARCH, 1886.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.043	57.3	38.8	50.0	29.0	21.0	33.2	24.1	SE.	E.	NE.	80	.....	1
29.934	67.7	45.9	65.0	29.7	35.3	40.6	34.7	E.	S.	E.	59	.....	2
30.233	58.7	40.1	47.1	33.0	14.1	35.0	26.7	NE.	NE.	NE.	184	*—	3
30.477	84.0	29.3	35.3	26.2	9.1	27.9	25.1	NE.	N.	N.	127	.52	4
30.608	83.7	29.6	34.6	24.6	9.4	28.2	25.1	E.	E.	S.	107	.03	5
30.127	86.0	41.0	55.4	31.2	24.2	39.1	37.0	S.	S.	E.	81	.02	6
30.059	96.0	49.5	56.1	39.9	16.2	48.9	48.3	E.	SE.	0	23	.20	7
30.361	56.7	46.8	55.3	41.1	14.2	40.0	30.0	NE.	N.	SE.	91	.....	8
30.159	81.7	38.9	46.7	35.0	11.7	36.8	33.6	SE.	N.	NE.	68	.41	9
29.939	61.0	44.2	51.8	38.4	13.4	38.5	30.2	NW.	NW.	NW.	250	.03	10
30.123	40.7	37.6	44.2	31.1	13.1	30.3	14.5	NW.	NW.	NW.	280	.....	11
30.092	25.3	40.1	48.3	28.4	19.9	30.3	6.6	NW.	N.	NW.	321	....	12
29.861	46.7	43.6	55.7	32.7	23.0	35.8	23.4	0	S.	N.	128	.....	13
29.790	51.7	37.1	44.9	28.0	16.9	31.4	20.5	NW.	N.	NW.	370	.03	14
29.781	41.0	32.9	41.2	23.1	18.1	26.3	10.0	NW.	NW.	N.	293	.....	15
29.630	36.7	36.5	42.4	29.7	12.7	28.8	10.1	NW.	NW.	W.	226	.....	16
29.590	47.7	33.0	37.9	28.0	9.9	27.4	15.1	NW.	NW.	NW.	335	*—	17
29.634	52.7	33.5	39.7	25.9	13.8	28.3	17.9	NW.	NW.	NW.	425	*—	18
29.812	56.7	38.1	43.8	31.0	12.8	32.8	23.8	NW.	NW.	NW.	330	.....	19
30.035	59.3	38.6	44.6	34.8	9.8	33.6	25.4	NW.	NW.	NW.	202	.....	20
29.872	81.7	36.8	46.9	28.8	18.1	34.4	31.1	0	E.	NE.	82	.42	21
29.644	64.7	37.1	43.0	32.2	10.8	32.8	24.9	NW.	NW.	NW.	377	1.14	22
29.880	42.3	36.1	39.9	30.0	9.9	29.4	15.0	SW.	NW.	N.	240	.....	23
29.732	53.7	48.7	59.0	28.3	30.7	40.5	30.6	0	SW.	SW.	148	*—	24
29.892	47.3	47.4	58.0	41.9	16.1	39.3	27.6	NW.	NW.	N.	265	*—	25
30.195	41.3	45.1	53.8	34.0	19.8	36.4	21.8	N.	NE.	E.	126	.....	26
30.230	69.7	35.9	44.8	30.7	14.1	32.5	26.4	E.	SE.	N.	179	.20	27
29.710	69.7	37.8	48.7	31.5	17.2	34.2	28.2	S.	NW.	NW.	222	.43	28
29.990	45.7	27.5	33.5	25.5	8.0	21.6	9.1	NW.	NW.	NW.	423	*—	29
30.261	45.0	34.5	41.2	20.8	20.4	28.0	13.8	NW.	W.	0	155	.....	30
30.208	96.7	32.6	39.5	30.2	9.3	32.2	31.7	0	E.	NE.	150	.40	31
923.902	1,849.1	1,194.6	1,447.7	954.7	493.0	1,035.5	742.3	.....	.....	.....	6,347	3.83	
29.997	59.6	38.5	46.7	30.8	15.9	33.4	23.9	NW.	NW.	NW.	204.7	.124	

* Dash (—) in rain-fall column indicates precipitation inappreciable.
The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

MARCH, 1886.

Day of month.	Color.	Mortality.																											
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Scarlet fever.	Diphtheria.	Croup.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Nervous diseases.	Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.	
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																				
1	W.	10				2	4	1	1			1				1	3		1						2			10	13
2	W.	3					3	2									1	1										3	10
3	W.	10				3	3	1						1			1	1		1								3	10
4	W.	9		1			5	1						1			1	1		1								3	10
5	W.	9				3	1	1									1	1										1	9
6	W.	4	1			1	1										4	2		1								4	10
7	W.	2				1	4										2	1										2	7
8	W.	7				3	1										4	2										4	10
9	W.	3				1	2	1									1	1										1	9
10	W.	4				1	2	1								1	1	1		1								3	9
11	W.	4				2	2	2									1	1	2		1	2						2	19
12	W.	9	1			1	1	1									3	1			1							4	10
13	W.	6		1		1	4	1									1	1										1	7
14	W.	1				3	2										2	1										3	15
15	W.	9				1	1										3	3										1	12
16	W.	5		1		1	2	1									2	1										1	6
17	W.	10				6	1							1			3	3		1								1	10
18	W.	2					2										1	1										3	11
19	W.	10	1			1	4	3	1								1	1	2	1	2							3	19
20	W.	8				1	1										1	1		1								3	11
21	W.	4	1			1	1										1	1										3	8
22	W.	6				1	2	1									1	1	1									2	6
23	W.	2					2										3	1										1	7
24	W.	7				2	1										1	2										2	10
25	W.	2				1											1	1										1	6
26	W.	3	1			2	2										2											3	7
27	W.	7				2	1										1	1										3	10
28	W.	2				1											1	1										1	13
29	W.	6				1	3										2	2										1	12
30	W.	6				1	1										3	1										1	12
31	W.	8				2	3										1	1										4	9
32	W.	6				1	1										1	1										2	9
33	W.	6				4	6										1	4										4	18
34	W.	13		1		2	2										1	1		1								3	9
35	W.	3				1	1										1	1										1	9
36	W.	4				1	3										1	2										2	18
37	W.	11				2	5	1									3	2	2									3	9
38	W.	8	1			1	2										4	1										1	9
39	W.	4				3	1										1	1										2	9
40	W.	7				2	3										1	1										4	8
41	W.	10				3	5	2									1	4		1								5	12
42	W.	2					1	1									1	1										2	8
43	W.	5		1			3										1	1		1								1	12
44	W.	6					3										1	1										2	9
45	W.	0		1													3											1	6
46	W.	6				1	4	1									3	1										1	7
47	W.	4				1	2										2	1										1	8
48	W.	4				1	4										2	1										1	12
49	W.	8				2	5	2									1	1	1									4	8
50	W.	3				2	3										1	1										2	12
51	W.	8				3	1										2	2										3	9
52	W.	9				3	1										2	1										1	9
53	W.	8	1			1	2	1									2	1										2	18
54	W.	8				1	7	3									2	1		1								4	9
55	W.	3				1	2	1									1	1		1								1	8
56	W.	3					2										1	1										3	11
Total..	W.	201	7	1	4	54	57	10	7	1	3	4	3	3	0	1	10	14	7	4	1	25	19	1	18	57	213	383	
Means	C.	162	4	5	0	17	73	11	4	0	0	0	0	3	1	3	36	15	5	2	1	24	4	0	12	55	170		

TABLE X—Continued.

MARCH, 1886.

Meteorological conditions.													
Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.043	57.3	38.8	50.0	29.0	21.0	33.2	24.1	SE.	E.	NE.	80	.....	1
29.934	67.7	45.9	65.0	29.7	35.3	40.6	34.7	E.	S.	E.	59	.....	2
30.233	58.7	40.1	47.1	33.0	14.1	35.0	26.7	NE.	NE.	NE.	184	*—	3
30.477	84.0	29.3	35.3	26.2	9.1	27.9	25.1	NE.	N.	N.	127	.52	4
30.608	83.7	29.6	34.6	24.6	9.4	28.2	25.1	E.	E.	S.	107	.03	5
30.127	86.0	41.0	55.4	31.2	24.2	39.1	37.0	S.	S.	E.	81	.02	6
30.059	96.0	49.5	56.1	39.9	16.2	48.9	48.3	E.	SE.	0	23	.20	7
30.361	56.7	46.8	55.3	41.1	14.2	40.0	30.0	NE.	N.	SE.	91	.....	8
30.159	81.7	38.9	46.7	35.0	11.7	36.8	33.6	SE.	N.	NE.	68	.41	9
29.939	61.0	44.2	51.8	38.4	13.4	38.5	30.2	NW.	NW.	NW.	250	.03	10
30.123	40.7	37.6	44.2	31.1	13.1	30.3	14.5	NW.	NW.	NW.	280	.....	11
30.092	25.3	40.1	48.3	28.4	19.9	30.3	6.6	NW.	N.	NW.	321	....	12
29.861	46.7	43.6	55.7	32.7	23.0	35.8	23.4	0	S.	N.	128	.....	13
29.790	51.7	37.1	44.9	28.0	16.9	31.4	20.5	NW.	N.	NW.	370	.03	14
29.781	41.0	32.9	41.2	23.1	18.1	26.3	10.0	NW.	NW.	N.	293	.....	15
29.630	36.7	36.5	42.4	29.7	12.7	28.8	10.1	NW.	NW.	W.	226	.....	16
29.590	47.7	33.0	37.9	28.0	9.9	27.4	15.1	NW.	NW.	NW.	335	*—	17
29.634	52.7	33.5	39.7	25.9	13.8	28.3	17.9	NW.	NW.	NW.	425	*—	18
29.812	56.7	38.1	43.8	31.0	12.8	32.8	23.8	NW.	NW.	NW.	330	.....	19
30.035	59.3	38.6	44.6	34.8	9.8	33.6	25.4	NW.	NW.	NW.	202	.....	20
29.872	81.7	36.8	46.9	28.8	18.1	34.4	31.1	0	E.	NE.	82	.42	21
29.644	64.7	37.1	43.0	32.2	10.8	32.8	24.9	NW.	NW.	NW.	377	1.14	22
29.880	42.3	36.1	39.9	30.0	9.9	29.4	15.0	SW.	NW.	N.	240	.....	23
29.732	53.7	48.7	59.0	28.3	30.7	40.5	30.6	0	SW.	SW.	148	*—	24
29.892	47.3	47.4	58.0	41.9	16.1	39.3	27.6	NW.	NW.	N.	265	*—	25
30.195	41.3	45.1	53.8	34.0	19.8	36.4	21.8	N.	NE.	E.	126	.....	26
30.230	69.7	35.9	44.8	30.7	14.1	32.5	26.4	E.	SE.	N.	179	.20	27
29.710	69.7	37.8	48.7	31.5	17.2	34.2	28.2	S.	NW.	NW.	222	.43	28
29.990	45.7	27.5	33.5	25.5	8.0	21.6	9.1	NW.	NW.	NW.	423	*—	29
30.261	45.0	34.5	41.2	20.8	20.4	28.0	13.8	NW.	W.	0	155	.....	30
30.208	96.7	32.6	39.5	30.2	9.3	32.2	31.7	0	E.	NE.	150	.40	31
923.902	1,849.1	1,194.6	1,447.7	954.7	493.0	1,035.5	742.3	.....	.....	.....	6,347	3.83	
29.997	59.6	38.5	46.7	30.8	15.9	33.4	23.9	NW.	NW.	NW.	204.7	.124	

* Dash (—) in rain-fall column indicates precipitation inappreciable.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.

Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

APRIL, 1886.

Day of month.	Color.	Mortality.																									
		Total deaths, less those by violence.	Deaths by violence.		Deaths by ages.					Scarlet fever.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Nervous diseases.	Diseases of circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.
			Accidents and negligence.	Homicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																			
1	W.	7			2	3										1	2								1	4	11
2	W.	4			1	2										1										4	9
3	W.	5			3	1	1	1								1	1								5	10	
4	W.	7			3											1										7	11
5	W.	3			1	2										2	2									3	11
6	W.	8			1	4										1	1									8	16
7	W.	3			4	3	1	1								1	2									7	9
8	W.	7			1	1	1	1								1	1									3	9
9	W.	6			1	4										1	3									6	15
10	W.	8				5	3	2	1							3	1	1								7	12
11	W.	5	1		2	1	1									1	2									6	14
12	W.	6			1	2										1	1									7	11
13	W.	7			1	2	5									1	1									7	9
14	W.	2			1	3	2									2	3									2	18
15	W.	4			1	1		2								3	1									4	9
16	W.	5			1											3										5	6
17	W.	4			1	1	1									2	1									4	14
18	W.	7			2	2	1	1								1	1									7	17
19	W.	5	1		2	4	1									1	1									5	12
20	W.	11	1		2	1	1									1	1									12	18
21	W.	4			2	3	1									1	3									4	16
22	W.	7			2	2										1	2									7	12
23	W.	8	1		2	2										1	1									8	14
24	W.	8	1		2	2										3	1									9	16
25	W.	7			3	3	1	1								1	2									7	11
26	W.	8			2	3										1	1									8	11
27	W.	3			1	4	1									3	1									3	12
28	W.	9			1	4										2										9	12
29	W.	4			1	2										1	2									4	5
30	W.	1			1											1	1									1	8
31	W.	5			2	1	1									1	2									5	8
32	W.	3			2	3										1	2									3	16
33	W.	9	2		2	3	1									4	1									11	16
34	C.	5			2	1										1										5	
Totals.	W.	176	6		47	52	8	5	2	4	2	3			29	18	4	6	2	20	14	2				182	355
Means	C.	168	3	1	31	72	9	4		1	5	1	1	5	38	13	8	5		22	6				57	173	

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 861

TABLE X—Continued.

APRIL, 1886.

Meteorological conditions.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	11 p. m.			
30.097	89.3	32.6	35.0	29.8	5.2	31.5	29.7	NE.	N.	N.	192	†.03	1
29.910	57.0	43.7	52.2	30.8	21.4	37.0	27.2	N.	NW.	NW.	262	†.06	2
30.035	58.3	52.0	63.1	35.3	27.8	44.6	36.7	SW.	S.	S.	104	.....	3
29.826	59.3	61.6	76.2	49.6	26.6	53.6	47.2	SW.	S.	NW.	202	.....	4
30.064	44.3	38.6	58.2	30.5	27.7	31.6	18.3	W.	NW.	NW.	368	.02	5
30.351	36.0	41.0	49.0	28.0	21.0	32.5	15.3	NW.	N.	0	159	.....	6
30.475	53.7	44.5	51.4	35.6	15.8	38.0	28.6	SE.	SE.	E.	117	*—	7
30.586	41.7	49.4	58.5	40.6	17.9	39.9	23.2	NE.	S.	S.	97	.....	8
30.401	60.7	53.9	67.0	38.2	28.8	46.6	39.5	SW.	S.	S.	90	.....	9
30.163	49.7	64.7	82.9	44.1	38.8	52.6	42.1	S.	NW.	0	103	.....	10
30.107	38.7	69.9	83.9	49.9	34.0	54.0	39.6	W.	W.	NW.	119	.....	11
30.246	62.3	60.6	73.7	53.7	20.0	52.9	46.5	N.	SW.	S.	129	.....	12
30.305	67.7	51.5	63.3	45.7	17.6	45.9	40.0	E.	SE.	E.	169	.....	13
30.213	56.3	50.8	61.2	40.1	21.1	43.4	34.9	E.	S.	S.	98	.....	14
29.909	76.7	52.3	58.1	43.9	14.2	48.5	44.9	SW.	S.	W.	142	.23	15
29.758	70.3	54.2	61.9	49.9	12.0	48.9	43.7	NW.	NW.	NW.	257	.02	16
29.930	53.3	46.8	53.7	42.5	11.2	39.9	30.4	N.	NW.	NE.	145	.03	17
29.573	86.0	43.0	47.0	40.9	6.1	41.2	39.0	E.	NE.	NE.	190	1.04	18
30.007	65.7	40.9	48.5	34.6	13.9	36.4	29.6	NW.	NW.	N.	191	*—	19
30.124	59.7	47.5	58.2	32.5	25.7	40.8	31.8	0	SW.	S.	76	.....	20
30.161	62.0	52.6	63.3	42.2	21.1	45.7	38.2	SW.	S.	S.	72	.....	21
30.129	83.3	48.8	57.5	47.8	9.7	46.3	43.7	S.	S.	S.	159	.58	22
29.735	83.0	62.6	72.9	46.8	26.1	58.9	56.8	E.	SW.	NW.	117	.18	23
29.971	45.3	56.5	62.2	48.0	14.2	46.3	34.8	N.	N.	0	198	*—	24
29.898	70.7	48.5	59.0	43.8	15.2	44.0	38.9	NE.	E.	N.	144	.57	25
29.906	65.7	53.1	63.8	42.9	20.9	46.8	40.5	NW.	W.	SW.	127	.11	26
29.932	63.3	58.2	67.9	43.0	24.9	51.0	44.3	SE.	W.	SE.	89	.02	27
29.517	83.7	57.5	66.5	52.0	14.5	54.6	52.6	S.	S.	SW.	154	.35	28
29.442	66.7	52.2	57.4	49.9	7.5	46.7	41.0	NW.	NW.	NW.	343	*—	29
29.725	40.0	58.1	65.8	49.0	16.8	46.4	33.2	NW.	NW.	NW.	371	.....	30
900.492	1,810.4	1,547.6	1,839.3	1,261.6	577.7	1,346.5	1,112.2	.....	.....	.....	4,984	3.24	
30.016	61.7	51.6	61.3	42.1	19.3	44.9	37.1	NW.	S.	NW.	166.1	.108	

* Dash (—) in rain column indicates precipitation inappreciable. † Snow and rain. ‡ Snow.
 The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.
 Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

MAY, 1887.

Day of month.	Color.	Mortality.																															
		Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.							Scarlet fever.	Diphtheria.	Croup.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of the lungs.	Nervous diseases.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths by color.	Total deaths.			
			Accidents and negligence.	Homicide.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	One day old and under, less those by violence.																								
1.....	W.C.	6			2	2												1	1				3						2	6	12		
2.....	W.C.	7			2	2			1						1					1		1	1						3	6	14		
3.....	W.C.	9		1			2	2										1		1		2	2					2	4	7	16		
4.....	W.C.	7			1	1												1		1			1					1	5		12		
5.....	W.C.	6	1		3	2												1		1		2	2					2	7		13		
6.....	W.C.	7			1	1												1		1		2	2					1	5		14		
7.....	W.C.	8		1			3	2										1				1	1					1	6		14		
8.....	W.C.	4	1		1	2																1	2					1	2		10		
9.....	W.C.	4	1				2	2														2							1	5		8	
10.....	W.C.	1	1			1	2	1		1		1																	1	2		8	
11.....	W.C.	6			2	2																							1	3		6	
12.....	W.C.	0					3	1														1	1						1	0		6	
13.....	W.C.	6					1	1		1												1	1						2	6		10	
14.....	W.C.	7					1	3		1												1	1						2	7		10	
15.....	W.C.	3					1	3		1												3							1	3		13	
16.....	W.C.	8	1				1	1		1												1	3						4	8		18	
17.....	W.C.	4					1	1		1												3							2	10		18	
18.....	W.C.	8	2				4	1		1												3							2	5		10	
19.....	W.C.	8					2	4		1												1	2						2	10		8	
20.....	W.C.	3		1		1	3	1																					2	3		8	
21.....	W.C.	2					3	1														1	2						1	9		12	
22.....	W.C.	9					1	1														2	2						3	6		13	
23.....	W.C.	3					1	1														1	2						1	7		12	
24.....	W.C.	6					1	1														1	2						2	7		13	
25.....	W.C.	6		1			1	1														1	2						1	6		13	
26.....	W.C.	2					3	1														2							1	4		11	
27.....	W.C.	6					1	1														1	2						2	5		11	
28.....	W.C.	6					1	4														1	2						1	6		11	
29.....	W.C.	5	1				2	1		2												1	1						2	5		10	
30.....	W.C.	5					1	1														1	1						1	7		10	
31.....	W.C.	2	1				1	2														2								3	4		9
31.....	W.C.	4					1	2		1												1	1							1	3		7
31.....	W.C.	2					1	1		1												1	1							1	4		7
31.....	W.C.	6					3	3																						2	6		8
Total	W.C.	147	10		33	37	9	5	2	4	1		2	1		15	4	5	2	30	19	2	10	51	159						331		
Means	W.C.	161	7	4	25	65	6	1	1	1	1	9				27	9	8	2	21	17	2	3	58	172								

TABLE X—Continued.

MAY, 1887.

Meteorological conditions.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	10 p. m.			
29.96	40.7	63.3	72.2	50.5	21.7	50.7	38.3	N.	S.	SE.	105	.....	1
30.07	58.3	68.3	82.4	57.9	24.5	59.0	52.3	S.	SW.	S.	95	.....	2
30.09	61.7	73.3	87.1	57.6	29.5	63.7	58.0	NE.	SE.	E.	68	.....	3
29.95	62.0	76.3	88.7	64.0	24.7	66.3	60.7	E.	S.	SE.	50	.....	4
29.87	65.0	72.0	81.7	66.2	15.5	66.7	59.0	NE.	E.	E.	133	.....	5
29.91	75.7	69.0	82.1	54.8	27.3	63.0	60.0	NE.	S.	S.	94	*.05	6
29.97	79.3	67.7	74.7	63.2	11.5	63.3	60.7	E.	SE.	S.	117	*.19	7
29.98	94.7	62.3	71.2	59.9	11.3	61.7	60.7	E.	E.	E.	92	*.53	8
30.02	86.0	66.0	71.8	59.6	12.2	63.0	61.7	NE.	E.	E.	123	†(—)	9
30.09	88.3	63.3	66.0	59.5	6.5	61.0	59.3	NE.	NE.	NE.	135	.01	10
30.01	76.3	68.7	79.0	58.9	20.1	63.0	60.3	N.	S.	S.	68	.....	11
29.94	51.3	74.0	84.8	59.3	25.5	61.0	52.3	N.	E.	S.	60	.....	12
29.95	45.3	68.0	79.0	61.8	17.2	55.3	45.0	NE.	NE.	S.	92	.....	13
30.21	56.7	60.0	68.8	52.0	16.8	51.3	43.7	SE.	E.	E.	92	.....	14
30.15	54.3	65.0	77.0	50.2	26.8	54.3	45.7	SW.	SW.	SW.	64	.....	15
29.99	56.7	68.3	82.3	50.7	31.6	57.7	50.0	SW.	E.	E.	57	.....	16
29.83	60.3	69.7	82.2	52.9	29.3	60.3	54.3	E.	S.	S.	51	.....	17
29.76	66.0	70.3	81.9	59.8	22.1	62.0	57.3	N.	N.	N.	63	.....	18
29.94	56.3	73.3	82.8	61.9	20.9	62.7	56.0	N.	N.	E.	85	.....	19
30.01	67.7	73.3	84.3	59.3	25.0	65.7	61.3	E.	S.	S.	83	.....	20
30.09	73.3	72.7	83.9	62.2	21.7	65.7	62.3	S.	S.	S.	81	.....	21
30.07	71.3	70.3	83.9	59.5	24.4	63.3	59.3	SE.	S.	S.	88	.....	22
29.92	76.7	71.3	78.8	62.0	16.8	65.3	62.7	S.	S.	S.	142	†(—)	23
29.68	81.7	71.7	82.0	65.1	16.9	68.0	65.7	S.	SE.	S.	177	*.76	24
29.61	81.0	69.3	82.7	62.2	20.5	64.7	62.0	SW.	S.	NW.	84	*.16	25
29.58	73.3	66.3	78.5	55.9	22.6	59.7	55.3	SW.	W.	NW.	97	*.13	26
29.65	73.3	59.7	67.0	53.9	13.1	54.7	50.7	NW.	N.	W.	142	.01	27
29.71	82.7	59.0	67.4	54.6	12.8	55.7	54.0	NW.	NW.	NE.	149	.29	28
29.83	73.0	62.3	71.8	51.7	20.1	57.3	53.3	NW.	NW.	†0	582	.....	29
29.93	69.3	67.0	76.8	56.1	20.7	60.0	55.7	S.	S.	S.	140	.....	30
29.94	89.7	62.0	71.3	55.1	16.2	60.0	58.7	SE.	E.	NE.	222	.37	31
927.74	2,147.9	2,103.7	2,424.1	1,798.3	625.8	1,883.1	1,736.3	.....	.....	.....	3,131	2.50	
29.927	69.3	67.9	78.2	58.0	20.2	60.7	56.0	NE.	S.	S.	101	0.81	

* Thunder-storms.

† Dash in rain-fall column indicates precipitation inappreciable.

‡ Self-register not working.

§ By dial.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea
 Barometer corrected for temperature, elevation above sea, and instrumental error.

TABLE X—Continued.

JUNE, 1887.

Mortality.																										
Day of month.	Color.	Total deaths, less those by violence.	Deaths by violence.		Deaths by ages.				Scarlet fever.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typho-malarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of the lungs.	Nervous diseases.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total by color.	Total deaths.	
			Accidents and negligence.	Suicide.	60 years and over, less those by violence.	Under 5 years, less those by violence.	Under 8 days, less those by violence.	1 day old and under, less those by violence.																		
1.....	W.	10	1	..	3	3	1	1	1	..	1	1	..	..	2	..	..	..	4	..	..	..	2	11	13	
2.....	C.	2	..	..	..	2	1	1	1	..	..	..	..	..	..	..	..	..	2	..	..	..	2	7	15	
3.....	W.	7	1	..	2	2	1	1	..	..	..	..	..	1	1	..	..	3	1	..	..	1	8	12		
4.....	W.	4	1	..	..	1	1	..	..	..	..	..	..	..	2	1	..	2	1	1	..	1	4	9		
5.....	C.	4	..	1	..	3	1	..	..	1	..	..	..	1	1	..	..	1	..	1	..	..	4	5		
6.....	W.	3	1	..	1	1	1	..	..	1	..	..	..	..	1	..	..	1	..	..	..	..	1	4	5	
7.....	W.	7	..	..	1	1	3	..	..	1	..	..	..	..	1	..	..	..	..	..	1	1	3	7	10	
8.....	W.	10	1	..	2	3	1	..	..	2	..	..	..	..	1	1	..	2	2	..	2	1	11	23		
9.....	C.	12	..	..	2	8	..	..	1	..	..	..	..	..	4	..	..	2	..	..	1	4	12	23		
10.....	W.	4	1	..	2	2	1	1	..	..	..	..	..	..	1	..	..	1	..	..	..	2	5	10		
11.....	C.	4	1	..	1	2	1	1	..	..	..	..	..	..	1	..	..	1	..	..	..	2	4	10		
12.....	W.	4	..	..	2	2	..	..	..	1	..	..	..	..	1	..	..	1	..	..	..	1	5	14		
13.....	W.	10	..	..	1	5	..	..	..	1	..	..	..	..	1	1	..	1	..	..	1	7	10	14		
14.....	C.	6	..	..	..	3	..	..	..	..	..	..	..	..	1	1	..	..	..	..	2	3	6	15		
15.....	W.	7	2	..	..	4	1	1	..	..	..	..	..	1	2	1	..	1	1	..	1	2	9	15		
16.....	C.	9	..	..	2	2	..	..	..	1	..	..	..	..	..	..	..	..	2	1	3	1	9	14		
17.....	W.	5	..	..	2	2	1	1	..	..	..	..	..	1	..	..	..	1	..	..	1	2	5	14		
18.....	C.	10	..	..	1	5	1	..	..	3	..	..	..	..	1	..	..	1	1	..	1	4	10	16		
19.....	W.	6	..	..	2	1	..	..	..	1	..	..	..	..	2	..	..	1	..	..	1	1	6	11		
20.....	C.	4	..	..	1	3	1	..	..	2	..	..	..	..	1	1	..	1	..	..	1	2	4	11		
21.....	W.	7	..	..	1	5	..	..	..	4	..	..	..	..	1	1	..	3	..	..	..	2	7	16		
22.....	C.	9	..	..	2	4	1	..	..	2	..	..	..	..	1	..	..	1	1	..	2	2	9	16		
23.....	W.	7	..	..	1	3	..	..	..	1	..	..	..	..	1	..	..	2	2	..	1	2	7	10		
24.....	C.	8	..	..	2	4	1	..	..	1	..	..	..	..	1	1	..	1	..	..	2	2	8	10		
25.....	W.	2	..	..	1	5	..	..	..	1	..	..	..	..	..	..	..	2	..	..	1	1	7	18		
26.....	C.	7	2	..	..	8	2	..	..	5	..	..	..	..	1	1	..	1	1	..	1	3	9	17		
27.....	W.	11	..	..	1	10	2	..	..	1	..	..	..	1	..	1	..	3	..	..	1	1	11	17		
28.....	C.	10	..	..	..	8	..	..	..	5	..	..	..	..	1	..	..	2	2	..	1	3	10	20		
29.....	W.	12	3	..	3	4	1	1	..	4	..	..	..	..	1	..	..	1	4	..	..	4	15	30		
30.....	C.	14	1	..	12	1	..	..	..	6	..	..	..	..	1	1	..	2	..	..	1	4	15	30		
1.....	W.	14	..	..	2	11	..	..	..	6	..	..	..	..	4	..	..	2	2	1	2	3	14	31		
2.....	C.	17	..	..	1	13	..	..	..	9	..	..	..	..	1	..	..	2	..	..	2	2	17	31		
3.....	W.	17	..	..	13	2	1	..	..	7	..	..	..	..	1	..	..	1	..	..	..	6	14	31		
4.....	C.	14	..	..	2	10	1	..	..	6	..	..	..	..	1	..	..	3	..	..	2	4	14	24		
5.....	W.	16	..	..	1	9	..	..	..	4	..	..	..	..	3	1	..	2	..	..	2	3	16	24		
6.....	C.	8	..	..	..	8	..	..	1	5	..	..	..	..	1	..	..	1	1	..	..	8	8	17		
7.....	W.	9	..	..	4	1	..	..	..	1	..	..	..	..	2	..	..	1	1	..	3	9	17			
8.....	C.	8	..	..	..	7	1	1	..	3	..	..	..	..	1	..	..	1	..	..	4	8	10			
9.....	W.	5	..	..	1	3	..	..	..	2	..	..	..	..	1	1	..	..	1	..	1	5	5	10		
10.....	C.	5	..	..	..	4	..	..	..	2	..	..	..	..	1	..	..	..	..	..	2	5	11	19		
11.....	W.	11	..	..	..	8	..	..	1	6	..	..	..	..	1	..	..	2	..	..	1	1	11	19		
12.....	C.	8	..	..	1	6	1	1	..	5	..	..	..	..	1	..	..	..	1	..	1	1	8	25		
13.....	W.	16	1	..	2	8	2	2	..	4	1	..	1	1	1	..	..	1	1	1	1	7	17	25		
14.....	C.	8	..	..	..	6	..	..	..	2	..	..	..	..	1	..	..	..	..	..	1	4	8	9		
15.....	W.	4	..	..	2	2	..	..	..	1	..	..	..	..	1	..	..	2	..	..	1	1	4	5	9	
16.....	C.	5	..	..	1	2	..	..	..	2	..	..	..	..	1	..	..	..	..	..	2	2	5	8	18	
17.....	W.	8	..	..	..	6	1	1	..	3	..	..	..	1	2	1	..	1	1	..	1	1	10	18		
18.....	C.	10	..	..	..	8	..	..	..	6	..	..	..	..	1	..	..	..	..	..	2	1	7	13		
19.....	W.	7	..	..	2	2	..	..	..	2	..	..	..	..	1	..	..	1	..	..	2	1	6	16		
20.....	C.	6	..	..	..	2	..	..	..	3	1	..	..	..	1	..	..	1	1	..	..	4	10	16		
21.....	W.	10	..	..	2	7	2	2	..	4	..	..	..	..	1	1	..	..	2	..	2	2	6	12	25	
22.....	C.	6	..	..	..	5	..	..	..	4	..	..	..	..	1	1	..	1	2	..	1	2	12	13		
23.....	W.	9	3	..	1	7	..	..	..	4	..	..	..	..	1	1	..	..	..	..	1	2	12	25		
24.....	C.	13	..	..	4	6	..	..	1	3	..	..	..	..	1	..	..	1	2	..	1	4	13	..		
Total	W.	248	11	1	40	131	13	6	1	3	68	4	..	4	21	6	2	2	42	8	4	23	62	262	499	
Means	C.	231	6	..	22	153	14	8	1	2	69	1	3	29	3	3	2	27	6	1	12	72	237			

TABLE X—Continued.

JUNE, 1887.

Meteorological conditions.

Daily mean barometer.	Relative mean humidity.	Exposed bulb.				Daily mean wet-bulb.	Daily mean dew-point.	Direction of wind.			Total movement of wind.	Daily rain-fall.	Day of month.
		Daily mean.	Maximum.	Minimum.	Range.			7 a. m.	3 p. m.	10 p. m.			
29.83	82.7	70.0	78.1	54.1	24.0	65.7	63.7	E.	S.	SE.	154	.21	1
29.78	82.7	66.3	76.0	59.2	16.8	62.7	60.3	SW.	SW.	W.	187	†.50	2
29.79	68.3	69.3	77.0	60.2	16.8	62.0	57.7	NW.	NW.	NW.	150	.01	3
29.88	65.3	73.7	81.8	65.2	16.6	65.3	60.7	NW.	N.	N.	126	* (—)	4
30.08	79.0	67.0	72.7	62.3	10.4	63.0	60.3	E.	NE.	E.	130	.....	5
30.07	90.0	64.0	66.0	60.0	6.0	62.0	60.7	SE.	SE.	S.	116	.15	6
29.89	88.7	71.0	80.4	64.1	16.3	68.7	67.7	SE.	E.	NE.	61	†.13	7
29.80	83.7	72.0	77.8	66.7	11.1	68.3	66.7	SE.	S.	SW.	47	.01	8
29.64	78.7	76.3	85.8	64.9	20.9	71.0	68.7	SW.	NW.	NW.	89	.01	9
29.87	70.3	64.7	74.3	61.2	13.1	58.3	53.7	NE.	NE.	NE.	205	* (—)	10
30.15	54.0	61.0	69.8	54.0	15.8	51.7	43.0	NE.	E.	E.	222	.....	11
30.07	49.7	67.0	76.3	50.1	26.2	55.7	46.7	N.	N.	N.	144	.....	12
29.90	54.7	72.7	84.8	51.4	33.4	61.0	52.7	N.	NE.	N.	103	.....	13
29.96	57.0	74.3	85.5	63.0	22.5	63.3	56.7	N.	E.	NE.	143	.....	14
30.08	58.3	67.7	76.2	58.9	17.3	58.3	51.7	NE.	SE.	SE.	109	.....	15
29.87	67.7	73.7	84.5	58.5	26.0	65.7	61.7	S.	S.	S.	115	.....	16
29.66	60.3	83.0	93.2	69.7	23.5	71.7	66.7	S.	N.	N.	115	.....	17
29.57	63.0	82.3	94.7	71.1	23.6	72.3	67.7	W.	NW.	NW.	103	....	18
29.68	76.3	77.3	89.2	65.2	24.0	70.7	68.0	NE.	S.	W.	104	†.11	19
29.82	69.7	79.7	90.5	71.8	18.7	71.7	68.3	N.	SW.	SW.	75	* (—)	20
29.73	62.3	80.3	89.8	70.8	19.0	70.7	65.7	SW.	S.	S.	122	.....	21
29.66	88.3	71.3	78.5	63.1	15.4	69.0	68.0	W.	W.	NW.	101	†1.55	22
29.72	81.7	68.0	73.4	64.0	9.4	64.0	61.7	SE.	SE.	SE.	64	†.31	23
29.89	58.0	72.3	83.6	63.1	20.5	62.0	55.3	SW.	W.	N.	97	.....	24
30.11	51.0	69.7	76.5	59.4	17.1	58.3	49.7	N.	N.	N.	117	.....	25
30.17	60.3	71.7	80.9	59.0	21.9	62.0	56.0	N.	SW.	SW.	†44	.....	26
30.21	56.0	71.7	79.8	59.6	20.2	61.0	54.0	N.	NE.	NE.	98	.....	27
30.20	56.0	73.0	83.1	59.1	24.0	62.3	55.3	E.	SW.	SW.	54	.....	28
30.17	64.3	74.3	84.9	61.0	23.9	65.3	60.3	SW.	S.	S.	73	.....	29
30.12	63.3	77.0	86.7	64.8	21.9	67.7	63.0	S.	S.	S.	109	.....	30
897.37	2,041.3	2,162.3	2,431.8	1,855.5	576.3	1,931.4	1,792.4	N.	S.	N.	3,377	2.99	
29.912	68.0	72.1	81.1	61.8	19.2	64.4	59.7	.....	.....	.....	112.6	.100	

* Dash (—) in rain-fall column indicates precipitation inappreciable.

† Thunder storms.

‡ By dial.

§ Indicates traces of rain-fall.

The surface of the mercury in the cistern of barometer is 106 feet above mean level of the sea.

Barometer corrected for temperature, elevation above sea, and instrument defect.

TABLE XI.—Deaths, and average ages, in Seven Years, from July 1, 1881, to June 30, 1887, inclusive.

WHITE.

Year.	All ages.				5 years and over.				20 years and over.				40 years and over.			
	Total.	Years.	Months.	Days.	Total.	Years.	Months.	Days.	Total.	Years.	Months.	Days.	Total.	Years.	Months.	Days.
1881.....	2,205	32	0	1	1,507	46	3	0	1,320	51	3	0	913	60	0	26
1882.....	2,353	32	1	6	1,585	46	7	5	1,382	51	7	23	951	62	3	13
1883.....	2,270	32	4	22	1,548	45	9	2	1,341	51	10	29	972	60	10	29
1884.....	2,576	31	1	28	1,686	46	8	13	1,451	52	5	15	1,037	61	1	28
1885.....	2,610	32	3	4	1,789	46	2	17	1,546	51	3	17	1,090	61	3	18
1886.....	2,442	34	6	19	1,752	46	10	22	1,543	51	8	29	1,068	61	10	1
1887.....	2,484	34	1	17	1,740	47	7	15	1,542	52	3	6	1,084	61	11	19
	16,940	32	7	28	11,607	46	6	28	10,125	51	9	17	7,115	61	5	6

COLORED.

1881.....	1,931	20	11	6	949	41	9	13	795	47	8	10	441	63	1	4
1882.....	2,218	21	5	23	1,113	41	0	3	892	48	5	16	527	61	11	16
1883.....	2,016	21	9	17	1,044	40	8	23	821	48	10	7	496	61	2	27
1884.....	2,238	19	11	13	1,088	40	5	23	847	49	1	3	507	61	2	8
1885.....	2,388	22	7	29	1,249	40	6	18	986	50	0	22	618	62	11	2
1886.....	2,232	22	11	17	1,226	41	4	4	974	47	6	20	594	62	0	14
1887.....	2,181	22	0	7	1,134	41	3	22	886	49	4	16	554	59	6	23
	15,204	21	8	7	7,803	41	0	8	6,201	48	1	26	3,737	61	4	17

TABLE XII.—Showing deaths, arranged according to age, sex, and color, with percentages, for the eleven years ending June 30, 1887.

	White males, eleven years ending June 30, 1887.											Total deaths, and mean percent-ages to total deaths.
	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	
Total deaths.....	1,148	1,125	1,130	1,097	1,179	1,254	1,196	1,322	1,375	1,312	1,343	13,481
5 years and over:												
Number of deaths.	725	683	689	711	791	854	820	885	958	949	940	9,003
Percentage to total deaths.....	63.15	60.71	60.97	64.81	67.10	68.10	68.53	66.94	69.67	72.33	69.84	66.78
20 years and over:												
Number of deaths.	633	568	562	641	709	751	709	764	841	841	845	7,864
Percentage to total deaths.....	55.14	50.49	49.73	58.43	60.14	59.88	59.28	57.79	61.16	64.10	62.91	58.33
40 years and over:												
Number of deaths.	432	380	384	459	509	541	533	572	601	610	596	5,617
Percentage to total deaths.....	37.63	33.78	33.98	41.84	43.17	43.14	44.57	43.27	43.71	46.49	44.38	41.66

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TABLE XII.—Showing deaths, arranged according to age, sex, and color, etc.—Continued.

	White females, eleven years ending June 30, 1887.											Total deaths, and mean percent-ages to total deaths.	Total white.
	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.		
Total deaths	1,039	1,041	1,063	988	1,026	1,099	1,074	1,254	1,235	1,130	1,141	12,093	25,574
5 years and over:													
Number of deaths	621	653	617	592	716	731	728	801	832	803	800	7,925	16,928
Percentage to total deaths	59.77	62.73	60.69	59.92	69.78	66.52	67.78	63.88	67.37	71.06	70.20	65.53	66.19
20 years and over:													
Number of deaths	522	541	535	529	611	631	632	687	705	702	697	6,792	14,656
Percentage to total deaths	50.21	51.97	50.10	53.51	59.55	57.42	58.85	54.78	57.08	62.12	61.00	56.16	57.30
40 years and over:													
Number of deaths	339	354	334	351	404	410	439	465	489	453	488	4,531	10,148
Percentage to total deaths	32.63	32.61	31.33	35.53	39.38	37.31	40.88	37.08	39.59	40.53	42.77	37.46	39.68
	Colored males, eleven years ending June 30, 1887.											Total deaths, and mean percent-ages to total deaths.	
	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.		
Total deaths	988	1,007	1,051	1,025	921	1,062	1,004	1,081	1,210	1,077	1,079	11,505	
5 years and over:													
Number of deaths	417	394	430	407	424	500	504	481	587	574	536	5,254	
Percentage to total deaths	42.20	39.13	40.91	39.71	46.04	47.08	50.20	44.50	48.51	53.29	49.72	45.67	
20 years and over:													
Number of deaths	337	311	348	325	347	402	397	381	476	458	427	4,210	
Percentage to total deaths	34.11	30.88	33.11	31.71	37.68	37.85	39.54	35.24	39.34	42.52	39.70	36.60	
40 years and over:													
Number of deaths	206	197	209	186	210	245	253	242	300	297	270	2,616	
Percentage to total deaths	20.85	19.56	19.89	18.15	22.80	23.07	25.20	22.39	24.79	27.57	25.14	22.74	
	Colored females, eleven years ending June 30, 1887.											Total deaths, and mean percent-ages to total deaths.	Total colored.
	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.		
Total deaths	1,033	1,058	1,062	1,096	1,010	1,156	1,012	1,157	1,178	1,155	1,102	12,019	23,524
5 years and over:													
Number of deaths	518	504	523	537	525	613	540	607	664	652	598	6,281	11,535
Percentage to total deaths	50.15	47.61	49.25	49.00	51.98	53.03	53.36	52.46	56.37	56.45	54.21	52.25	49.02
20 years and over:													
Number of deaths	396	374	424	434	448	490	422	466	510	516	459	4,937	9,147
Percentage to total deaths	38.33	35.35	39.92	39.60	44.36	42.39	41.70	40.28	43.29	44.67	41.43	41.07	38.88
40 years and over:													
Number of deaths	221	208	230	237	231	282	243	261	319	297	284	2,812	5,428
Percentage to total deaths	21.39	19.66	21.66	21.62	22.87	24.39	24.01	22.56	27.80	25.71	25.65	23.39	23.07

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TABLE XIII.—Deaths under one month of age from convulsions and trismus nascentium, by age, months, and sanitary divisions, for the year ending June 30, 1887.

BY AGE.

	Convulsions.					Trismus nascentium.				
	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.	
Under one day.....				1	1					
One day to two days.....	3	1			4					
Two days to three days.....			3	1	4		1	1		2
Three days to four days.....		1	1		2	1				1
Four days to five days.....	1			1	2	1		2		3
Five days to six days.....		1	1	1	3	1		1	1	3
Six days to seven days.....	1			3	4	2	2	1	4	9
Seven days to eight days.....		2	4	2	8	3	2	6	5	16
Eight days to nine days.....	2				2			1	2	3
Nine days to ten days.....			1		1			7		7
Ten days to eleven days.....	1			3	4	1		5	1	7
Eleven days to twelve days.....										
Twelve days to thirteen days.....								1		1
Thirteen days to two weeks.....	1				1					
Two weeks to three weeks.....	1	1	1	2	5			2		2
Three weeks to four weeks.....			1	2	3					
Total.....	10	6	12	16	44	9	5	27	13	54

BY MONTHS.

July.....	1	1	2	2	6	1	1	2		4
August.....	4	1			5	1		1	2	4
September.....	1	2	2	1	6	2	1	2	1	6
October.....		2	2	4	8		1	1	2	4
November.....			1	2	3	1		1	3	5
December.....	1		1	1	3	1		1		2
January.....			2	2	4			2		2
February.....			1	4	5			1		1
March.....							1	4	1	6
April.....	1				1			6	1	7
May.....	1				1			5	1	6
June.....	1		1		2	3	1	1	2	7
Total.....	10	6	12	16	44	9	5	27	13	54

BY SANITARY DIVISIONS.

First sanitary division.....						1			2	3
Second sanitary division.....			2		2					
Third sanitary division.....		1	3	1	5			3		3
Fourth sanitary division.....			1		1	2		5	2	9
Fifth sanitary division.....	1		1	2	4			6	2	8
Sixth sanitary division.....	1				1	2	2	1	3	8
Seventh sanitary division.....	2		1	4	7			5	1	13
Eighth sanitary division.....	1	1	1		3	1			1	6
Ninth sanitary division.....		1	1	4	6			2	1	9
Tenth sanitary division.....	1	2	1	3	7		2	1		10
Eleventh sanitary division.....	2				2	2	1	3	1	9
Twelfth sanitary division.....	2	1	1	2	6	1		1		9
Total.....	10	6	12	16	44	9	5	27	13	54

TABLE XIV.—Deaths from cancers, by color, sex, and nativities, from September 1, 1874, to June 30, 1887.

Cancer of—	Color.	Sex.	Nativities.								
			District of Columbia.	Other parts of the United States.	Ireland.	England.	Germany.	France.	Italy.	Other countries and unknown.	Total.
Breast.....	White ..	Female ...	19	64	16	4	3			2	108
	Colored	Male.....	1	2							3
Uterus	White ..	Female ...	6	40							46
	Colored	Female ...	31	123	20	9	8	1	1	4	197
Ovary	White ..	Female ...	20	80							100
	Colored	Female ...	5	7	2		2				16
Stomach.....	White ..	Female ...	1	4							5
	White ..	Male.....	10	32	14	4	19		1	3	83
Liver.....	Colored	Female ...	12	24	8	5	7			2	58
	White ..	Male.....	3	23							26
Face, head, neck, and mouth ...	Colored	Female ...	8	30							38
	White ..	Male.....	3	10	1		8			3	25
All other organs.....	Colored	Female ...	4	12		3	4			1	24
	White ..	Male.....		6							6
Total.....	Colored	Female ...		3							3
	White ..	Male.....	12	32	11	3	2	1		2	63
Grand total.....	Colored	Female ...	8	17	6		3			2	36
	White ..	Male.....	1	10							11
Total by sex.....	Colored	Female ...		7						1	8
	White ..	Male.....	7	38	4	4	10	1		2	60
Total by color.....	Colored	Female ...	22	48	7	2	9	1		2	91
	White ..	Male.....	2	15							17
Grand total.....	Colored	Female ...	4	32							36
	White ..	Male.....	32	112	30	11	39	2	1	10	237
Total by sex.....	Colored	Female ...	101	295	59	23	36	2	1	13	530
	White ..	Male.....	7	56							63
Total by color.....	Colored	Female ...	39	196						1	236
	White ..	Male.....	39	168	30	11	39	2	1	10	300
Grand total.....	Colored	Female ...	140	491	59	23	36	2	1	14	766
	White ..	Male.....	133	407	89	34	75	4	2	23	767
Grand total.....	Colored	Female ...	46	252						1	299
	White ..	Male.....	179	659	89	34	75	4	2	24	1,066

TABLE XV.—Deaths from cancers of white females from September 1, 1874, to June 30, 1887.

Cancer of—	Married.		Widows.		Single.		Total deaths from cancers.
	Deaths from cancers.	Percentage to total deaths from cancers of married.	Deaths from cancers.	Percentage to total deaths from cancers of widows.	Deaths from cancers.	Percentage to total deaths from cancers of single.	
Breast	41	15.41	43	24.16	24	28.23	108
Uterus	125	47.00	56	31.47	15	17.66	*197
Ovary	11	4.13	4	2.24	1	1.18	16
Stomach	21	7.90	25	14.05	12	14.11	58
Liver	10	3.76	10	5.61	4	4.70	24
Head, face, neck, and mouth	14	5.26	16	8.99	6	7.06	36
All others	44	16.54	24	13.48	23	27.06	91
Total	266	100.00	178	100.00	85	100.00	530

* One cancer of the uterus; conjugal relation unknown.

TABLE XVI.—Deaths from cancers of colored females from September 1, 1874, to June 30, 1887.

Cancer of—	Married.		Widows.		Single.		Total deaths from cancers.
	Deaths from cancers.	Percentage to total deaths from cancers of married.	Deaths from cancers.	Percentage to total deaths from cancers of widows.	Deaths from cancers.	Percentage to total deaths from cancers of single.	
Breast	19	19.79	25	22.12	2	7.40	46
Uterus	46	47.93	46	40.71	8	29.64	100
Ovary	4	4.16	1	.89	—	—	5
Stomach	10	10.42	23	20.35	5	18.52	38
Liver	1	1.04	1	.89	1	3.70	3
Head, face, neck, and mouth	2	2.08	3	2.65	2	7.40	7
All others	14	14.58	14	12.39	9	33.34	37
Total	96	100.00	113	100.00	27	100.00	236

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TABLE XVII.—Deaths from cancers, by color, sex, age, etc., from September 1, 1874, to June 30, 1887.

Age.	Color.	Sex.	Cancer of breast.	Cancer of uterus.	Cancer of ovary.	Cancer of stomach.	Cancer of liver.	Cancer of head, face, neck, and mouth.	All others.	Total.
Under 20 years	White	Male					1	2	4	7
		Female		1				4	5	11
	Colored	Male	1			1		1	2	5
		Female				1		1	1	3
20 to 30 years	White	Male				1		1	2	4
		Female		4	2	3		1	5	15
	Colored	Male				2	1	1	3	7
		Female	2	5	1	2		1	2	13
30 to 40 years	White	Male				2	2	2	4	10
		Female	7	31	2	1	2	1	8	52
	Colored	Male	1			3			1	5
		Female	3	24	2	3			6	38
40 to 50 years	White	Male				13	5	12	10	40
		Female	23	64	3	9	10	4	14	127
	Colored	Male				11		4	1	16
		Female	7	19		4			11	41
50 to 60 years	White	Male				28	10	15	14	67
		Female	32	46	4	13	1	6	23	125
	Colored	Male				4	3	3	0	10
		Female	13	27	2	6		2	5	55
60 to 70 years	White	Male				20	4	11	20	55
		Female	27	34	4	18	6	5	21	115
	Colored	Male				5		1	1	7
		Female	11	10		9	1	1	6	38
70 to 80 years	White	Male				14	2	12	9	37
		Female	17	13	1	14	5	5	10	65
	Colored	Male				1	2		3	6
		Female	6	12		8	1	1	4	32
80 years and over	White	Male				5	1	8	4	18
		Female	2	4				10		16
	Colored	Male	1					1	2	4
		Female	4	3		4	1	2	2	16
Totals	White	Male				83	25	63	66	237
		Female	108	197	16	58	24	36	91	530
	Colored	Male	3			26	6	11	17	63
		Female	46	100	5	38	3	8	36	236
Grand total			157	297	21	205	58	118	210	1,066
Percentage to total deaths from cancer			14.76	27.91	1.97	19.27	5.45	10.90	19.74	100.00

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TABLE XVIII.—*Number of deaths from cancers, by color, sex, and age; total number of deaths from all causes; and number of deaths from all causes to 1 from cancer, from September 1, 1874, to June 30, 1887.*

Cause of death.	White.			Colored.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
Under 20 years:							
Deaths from cancers	7	11	18	5	3	8	26
Deaths from all causes	6,539	6,205	12,744	8,513	8,302	16,815	29,559
Number of deaths from all causes to 1 from cancers..	934	564	.....	1,703	2,767	.....	.....
20 to 30 years:							
Deaths from cancers	4	15	19	7	13	20	39
Deaths from all causes	1,188	1,307	2,495	970	1,350	2,320	4,815
Number of deaths from all causes to 1 from cancers..	297	87	.....	139	104	.....	.....
30 to 40 years:							
Deaths from cancers	10	52	62	5	38	43	105
Deaths from all causes	1,443	1,299	2,742	896	1,069	1,965	4,707
Number of deaths from all causes to 1 from cancers..	144	25	.....	179	28	.....	.....
40 to 50 years:							
Deaths from cancers	40	127	167	16	41	57	224
Deaths from all causes	1,740	1,124	2,864	843	738	1,581	4,445
Number of deaths from all causes to 1 from cancers..	43	9	.....	53	18	.....	.....
50 to 60 years:							
Deaths from cancers	67	125	192	16	55	71	263
Deaths from all causes	1,563	1,029	2,592	681	572	1,253	3,845
Number of deaths from all causes to 1 from cancers..	23	8	.....	43	10	.....	.....
60 to 70 years:							
Deaths from cancers	55	115	170	7	38	45	215
Deaths from all causes	1,466	1,148	2,614	571	606	1,177	3,791
Number of deaths from all causes to 1 from cancers..	27	10	.....	82	16	.....	.....
70 to 80 years:							
Deaths from cancers	37	65	102	6	32	38	140
Deaths from all causes	1,197	1,121	2,318	498	610	1,108	3,426
Number of deaths from all causes to 1 from cancers..	32	17	.....	83	19	.....	.....
80 years and over:							
Deaths from cancers	17	20	37	1	16	17	54
Deaths from all causes	438	677	1,115	361	673	1,034	2,149
Number of deaths from all causes to 1 from cancers..	24	42	.....	120	45	.....	.....

TABLE XIX.—*Deaths: Total deaths from eighteen different diseases and suicides during FOUR years ending June 30, 1887.*

Diseases.	White.		Colored.		Total.	Diseases.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	
Consumption	759	713	733	934	3,139	Rheumatism	60	38	20	22	140
Typhoid fever	158	131	75	80	444	Aneurisms	18	6	13	4	41
Apoplexy	173	126	79	77	455	Angina pectoris	14	9	4	1	28
Insanity	208	48	58	28	342	Gastritis	45	41	19	17	122
Softening of the brain	32	20	5	6	63	Cirrhosis of liver	30	15	4	4	53
Paralysis	65	70	30	46	211	Dropsies	11	23	23	32	89
Cancer	98	210	26	88	422	Diabetes	21	13	4	1	39
Epilepsy	11	5	7	7	30	Hernia	10	6	10	1	27
Disease of the heart	268	249	155	238	910	Suicides	51	8	5	2	66
Bright's disease	85	47	40	32	204						

TABLE XX.—Still-births and cause, and legitimacy, period of utero-gestation, and by whom reported, for the year ending June 30, 1857.

	White.		Colored.		Unknown sex or color.	Total.		White.		Colored.		Unknown sex or color.	Total.
	Male.	Female.	Male.	Female.				Male.	Female.	Male.	Female.		
Legitimacy:							Causes:						
Legitimate	73	51	84	63	2	276	Dysentery, acute		1				1
Illegitimate	9	13	65	41	2	130	Exposure of mother			1			1
Total	82	67	149	104	4	406	Fall of mother	5	1	10	5		21
Period of utero gestation:							Fright of mother	2	2	1			5
Fourth month and under	1		8	3	3	15	Green chestnuts				1		1
Fifth month	6	5	6	8		25	Heavy lifting	1	1	8	8		18
Sixth month	9	6	21	15		51	Hydro-cephalic	1					1
Seventh month	17	15	23	21		76	Ill-health of mother		1	1	3		5
Eighth month	6	5	17	11		39	Insufficient development			1			1
Ninth month	31	31	74	43	1	180	Lacerated cervix					1	1
Tenth month	3					3	Malarial fever	1		1			2
Unknown and not given	9	5		3		17	Maternal debility	1					1
Total	82	67	149	104	4	406	Overwork by mother	1	3	9	3	1	17
By whom reported:							Placenta previa	2	1		1		4
Physicians	61	52	72	44	2	233	Premature birth	9	5	19	14		47
Midwives	4	1	5	1		11	Premature detachment of placenta	1	5				6
Coroner	8	8	23	26	1	66	Predisposition to abortion			1	1		2
Medical sanitary inspector	7	6	49	33	1	96	Preternatural labor		1				1
Total	82	67	149	104	4	406	Pressure on cord	3	1				4
Causes:							Presentation:						
Accident to mother			4	2		6	Arm			1			1
Albuminuria		2				2	Breech	2	1	3			6
Asphyxia	5					5	Foot		1	1			2
Congenital debility		1				1	Left hand			1			1
Contracted pelvis (of mother)		1				1	Prolapsus funis	1	1	2	2		6
Convulsions puerperal			1	1		2	Protracted labor	3	4	14	5		26
Degeneration of placenta		1	2			3	Spina bifida		1				1
Died "in utero"	1		2	4		7	Syphilis	1		3	4		8
							Twin-birth			4	2		6
							Uterine hemorrhage	2		3	1		6
							Uræmia	1					1
							Worry of mind of mother		1				1
							Unknown and not given	39	31	56	47	2	175
							Total	82	67	149	104	4	406

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TABLE XVIII.—*Number of deaths from cancers, by color, sex, and age; total number of deaths from all causes; and number of deaths from all causes to 1 from cancer, from September 1, 1874, to June 30, 1887.*

Cause of death.	White.			Colored.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
Under 20 years:							
Deaths from cancers	7	11	18	5	3	8	26
Deaths from all causes	6,539	6,205	12,744	8,513	8,302	16,815	29,559
Number of deaths from all causes to 1 from cancers ..	934	564	.....	1,703	2,767	.....	.....
20 to 30 years:							
Deaths from cancers	4	15	19	7	13	20	39
Deaths from all causes	1,188	1,307	2,495	970	1,350	2,320	4,815
Number of deaths from all causes to 1 from cancers ..	297	87	.....	139	104	.....	.....
30 to 40 years:							
Deaths from cancers	10	52	62	5	38	43	105
Deaths from all causes	1,443	1,299	2,742	896	1,069	1,965	4,707
Number of deaths from all causes to 1 from cancers ..	144	25	.....	179	28	.....	.....
40 to 50 years:							
Deaths from cancers	40	127	167	16	41	57	224
Deaths from all causes	1,740	1,124	2,864	843	738	1,581	4,445
Number of deaths from all causes to 1 from cancers ..	43	9	.....	53	18	.....	.....
50 to 60 years:							
Deaths from cancers	67	125	192	16	55	71	263
Deaths from all causes	1,563	1,029	2,592	681	572	1,253	3,845
Number of deaths from all causes to 1 from cancers ..	23	8	.....	43	10	.....	.....
60 to 70 years:							
Deaths from cancers	55	115	170	7	38	45	215
Deaths from all causes	1,466	1,148	2,614	571	606	1,177	3,791
Number of deaths from all causes to 1 from cancers ..	27	10	.....	82	16	.....	.....
70 to 80 years:							
Deaths from cancers	37	65	102	6	32	38	140
Deaths from all causes	1,197	1,121	2,318	498	610	1,108	3,426
Number of deaths from all causes to 1 from cancers ..	32	17	.....	83	19	.....	.....
80 years and over:							
Deaths from cancers	17	20	37	1	16	17	54
Deaths from all causes	438	677	1,115	361	673	1,034	2,149
Number of deaths from all causes to 1 from cancers ..	24	42	.....	120	45	.....	.....

TABLE XIX.—*Deaths: Total deaths from eighteen different diseases and suicides during FOUR years ending June 30, 1887.*

Diseases.	White.		Colored.		Total.	Diseases.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	
Consumption	759	713	733	934	3,139	Rheumatism	60	38	20	22	140
Typhoid fever	158	131	75	80	444	Aneurisms	18	6	13	4	41
Apoplexy	173	126	79	77	455	Angina pectoris	14	9	4	1	28
Insanity	208	48	58	28	342	Gastritis	45	41	19	17	122
Softening of the brain	32	20	5	6	63	Cirrhosis of liver	30	15	4	4	53
Paralysis	65	70	30	46	211	Dropsies	11	23	23	32	89
Cancer	98	210	26	88	422	Diabetes	21	13	4	1	39
Epilepsy	11	5	7	7	30	Hernia	10	6	10	1	27
Disease of the heart	268	249	155	238	910	Suicides	51	8	5	2	66
Bright's disease	85	47	40	32	204						

TABLE XX.—Still-births and cause, and legitimacy, period of utero-gestation, and by whom reported, for the year ending June 30, 1887.

	White.		Colored.		Unknown sex or color.	Total.		White.		Colored.		Unknown sex or color.	Total.
	Male.	Female.	Male.	Female.				Male.	Female.	Male.	Female.		
Legitimacy:							Causes:						
Legitimate	73	51	84	63	2	276	Dysentery, acute		1				1
Illegitimate	9	13	65	41	2	130	Exposure of mother			1			1
Total	82	67	149	104	4	406	Fall of mother	5	1	10	5		21
Period of utero gesta-							Fright of mother	2	2	1			5
tion:							Green chestnuts				1		1
Fourth month and							Heavy lifting	1	1	8	8		18
under	1		8	3	3	15	Hydro-cephalic	1					1
Fifth month	6	5	6	8		25	Ill-health of mother		1	1	3		5
Sixth month	9	6	21	15		51	Insufficient develop-			1			1
Seventh month	17	15	23	21		76	ment						1
Eighth month	6	5	17	11		39	Lacerated cervix					1	1
Ninth month	31	31	74	43	1	180	Malarial fever	1		1			2
Tenth month	3					3	Maternal debility	1					1
Unknown and not							Overwork by mother	1	3	9	3	1	17
given	9	5		3		17	Placenta previa	2	1		1		4
Total	82	67	149	104	4	406	Premature birth	9	5	19	14		47
By whom reported:							Premature detach-						
Physicians	61	52	72	44	2	233	ment of placenta	1	5				6
Midwives	4	1	5	1		11	Predisposition to			1	1		2
Coroner	8	8	23	26	1	66	abortion						1
Medical sanitary in-							Preternatural labor		1				1
spector	7	6	49	33	1	96	Pressure on cord	3	1				4
Total	82	67	149	104	4	406	Presentation:						
Causes:							Arm			1			1
Accident to mother			4	2		6	Breech	2	1	3			6
Albuminuria		2				2	Foot		1	1			2
Asphyxia	5					5	Left hand			1			1
Congenital debility		1				1	Prolapsus funis	1	1	2	2		6
Contracted pelvis (of							Protracted labor	3	4	14	5		26
mother)		1				1	Spina bifida		1				1
Convulsions puerpe-							Syphilis	1		3	4		8
ral			1	1		2	Twin-birth			4	2		6
Degeneration of pla-							Uterine hemorrhage	2		3	1		6
centa		1	2			3	Uræmia	1					1
Died "in utero"	1		2	4		7	Worry of mind of		1				1
							mother						
							Unknown and not						
							given	39	31	56	47	2	175
							Total	82	67	149	104	4	406

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TABLE XXI.—BIRTHS.—Statement by months and quarters for the year ending June 30, 1887.

	Total.	White.		Colored.		Un-known sex.		Twins.		Triplets (colored).	Bas-tards.		Attended by physi-cians.		Attended by mid-wives.	
		Male.	Female.	Male.	Female.	White.	Colored.	White.	Colored.		White.	Colored.	White.	Colored.	White.	Colored.
1886.																
July	340	110	80	75	75	...	...	2	8	...	9	25	105	35	85	115
August	314	81	88	71	74	...	...	4	6	...	4	32	91	34	78	111
September	323	101	86	68	66	...	2	8	6	...	5	28	87	35	100	101
Total 1st quarter ..	977	292	254	214	215	....	2	14	20	...	18	85	283	101	263	327
October	313	95	106	68	43	....	...	6	2	....	6	27	102	33	100	78
November	338	107	96	57	78	....	...	2	2	....	4	22	132	21	71	114
December	341	100	94	63	84	....	...	6	2	...	3	34	93	29	101	118
Total 2d quarter ...	992	303	296	188	205	...	...	12	6	..	13	83	327	83	272	310
1887.																
January	310	78	80	76	76	....	...	2	5	....	5	35	85	47	73	105
February	327	75	85	77	90	....	...	2	10	....	9	41	74	32	86	135
March	317	85	90	72	70	....	...	2	6	....	2	23	88	36	87	106
Total 3d quarter ...	954	238	255	225	236	....	...	6	21	..	16	99	247	115	246	346
April	245	68	76	49	52	...	...	2	2	....	3	20	80	29	64	72
May	263	76	69	57	61	...	...	2	...	...	10	25	80	35	65	83
June	297	76	88	69	63	1	..	4	2	3	10	36	103	40	62	92
Total 4th quarter ..	805	220	233	175	176	1	...	8	4	3	23	81	263	104	191	247
Total by sex and color .....	.....	1,053	1,038	802	832	..	...	...	...	...	...	...	.....	.....	...	.....
Total by color		2,091	1,634	1	2	40	51	3	70	348	1,120	406	972	1,230		
Grand total for the year	3,728	1,053	1,038	802	832	1	2	91	3	418	1,526	2,202				

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TABLE XXII.—BIRTHS.—*Number of births (reported) in different hospitals during the year ending June 30, 1887.*

Months.	Color.	Sex.	Columbia Hos- pital.	Freedmen's Hos- pital.	Washington Asy- lum.	St. Ann's Infant Asylum.	National Homeo- pathic Hospital.	Government In- sane Asylum.	Columbia Institu- tion for the Deaf and Dumb.
1886.									
July.....	White..	Male.....	7		1	1			
		Female....	2						
	Colored..	Male.....	3	2					
		Female....	3	5	1				
August.....	White..	Male.....	3	1			1		
		Female....	1					1	
	Colored..	Male.....	5	6					
		Female....	4	4					
September.....	White..	Male.....	3	1					
		Female....	1						
	Colored..	Male.....	5	7					1
		Female....		2	4				
October.....	White..	Male.....	3						
		Female....	6			1	1		
	Colored..	Male.....	6	8					
		Female....	1	2	1				
November.....	White..	Male.....				1			
		Female....	2						
	Colored..	Male.....		3					
		Female....	1	7	1				
December.....	White..	Male.....	2	1		1			
		Female....							
	Colored..	Male.....	3	5					
		Female....	3	5					
1887.									
January.....	White..	Male.....	4						
		Female....		1					
	Colored..	Male.....	9	6					
		Female....	5	7					
February.....	White..	Male.....	2						
		Female....	4						
	Colored..	Male.....	2	5	1				
		Female....	7	9					
March.....	White..	Male.....	1						
		Female....	5						
	Colored..	Male.....	3	2	1				
		Female....	4	6	3				
April.....	White..	Male.....	3				1		
		Female....	3	1					
	Colored..	Male.....	2	3	1				
		Female....	5	10					
May.....	White..	Male.....	2	1					
		Female....	9	1					
	Colored..	Male.....	5	2	1				
		Female....	4	3					
June.....	White..	Male.....	2		1	1			
		Female....	3	1	1	1			
	Colored..	Male.....	8	7	1				
		Female....	1	3	1				

RECAPITULATION.

	Total.	White.	Colored.	Male.	Female.
Columbia Hospital.....	157	68	89	83	74
Freedmen's Hospital.....	127	8	119	64	63
Washington Asylum.....	19	4	15	7	12
St. Ann's Infant Asylum.....	6	5	1	4	2
National Homeopathic Hospital.....	3	2	1	2	1
Government Insane Asylum.....	1	1			1
Columbia Institution for Deaf and Dumb.....	1	1		1	
Total.....	314	89	225	161	153

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TABLE XXIII.—MARRIAGES (REPORTED).—*Number of brides and grooms, year ending June 30, 1887.*

Number of marriages of grooms.	Number of marriages of brides.				
	First marriage.	Second marriage.	Third marriage.	Not given.	Total.
WHITES.					
First marriage.....	602	36	1	.....	639
Second marriage.....	62	29	1	.....	92
Third marriage.....	5	2	1	.....	8
Not given.....					
Total.....	669	67	3	.....	739
COLORED.					
First marriage.....	224	23	2	.....	249
Second marriage.....	35	26	1	.....	62
Third marriage.....	2	5	1	.....	8
Not given.....					
Total.....	261	54	4	.....	319
MIXED.					
First marriage.....	1	1	.....	.....	2
Not given.....				1	1
Total.....	1	1	.....	1	3

TABLE XXIV.—MARRIAGES (REPORTED).—*Nationality of brides and grooms, of white race, year ending June 30, 1887.*

Birthplaces of grooms,	Birthplaces of brides.										
	United States.	Germany.	Canada.	England.	Scotland.	Ireland.	France.	Russian Poland.	Russia.	Sicily.	Mixed as to color.
United States.....	659	6	1	4	1	.....	.....	.....	.....	.....	.....
Germany.....	17	21	.....	1	.....	.....	.....	.....	.....	.....	.....
Canada.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
England.....	7	.....	.....	4	.....	.....	.....	.....	.....	.....	.....
Scotland.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ireland.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
France.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Russian Poland.....	2	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
Russia.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sicily.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Mixed as to color.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	700	27	1	9	1	.....	.....	3	.....	1	.....

TABLE XXV.—MARRIAGES (REPORTED).—*Ages of brides and grooms (white) during the year ending June 30, 1887.*

Ages of grooms.	Ages of brides.								
	Under 20 years.	20 to 25 years.	25 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 years and over.	Total.
Under 20 years.....	2	1							3
20 to 25.....	108	121	12						241
25 to 30.....	57	107	54	11	*2				231
30 to 40.....	24	*56	45	43	2	1		1	172
40 to 50.....	2	9	13	31	6	1			62
50 to 60.....	1		2	*5	4	2			14
60 to 70.....				1	3	3			7
70 years and over.....					1				1
Not given.....								11	11
Total.....	194	294	126	91	18	7		12	742

*Including three mixed marriages, white grooms and colored brides.

TABLE XXVI.—MARRIAGES (REPORTED).—*Ages of brides and grooms (colored) during the year ending June 30, 1887.*

Ages of grooms.	Ages of brides.								
	Under 20 years.	20 to 25 years.	25 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 years and over.	Total.
Under 20 years.....	2	1							3
20 to 25.....	46	32	12	2					93
25 to 30.....	17	43	21	5	*2				88
30 to 40.....	1	*27	31	15	1				76
40 to 50.....		4	7	18	5	2			37
50 to 60.....			4	6	5	4			19
60 to 70.....				*2	2	1			5
70 years and over.....							1		1
Not given.....									
Total.....	66	107	75	48	15	7	1	3	322

*Including three mixed marriages, white grooms and colored brides.

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TABLE XXVII.—Showing the number of legitimate and illegitimate births, with percentages of births to deaths, of still births to births, of illegitimacy to births, and of illegitimacy to illegitimacy, by color, for NINE years, from 1879 to 1887, inclusive.

Years.	Number of births.	Color.		Legitimate.		Illegitimate.		Percentage of births to deaths.	Percentage of still-births to births.	Percentage of illegitimacy to births.
		White.	Colored.	White.	Colored.	White.	Colored.			
1879.....	3,816	2,117	1,699	2,068	1,400	49	299	88.5	10.4	12.5
1880.....	4,095	2,297	1,798	2,241	1,456	56	342	97.3	8.8	12.0
1881.....	3,595	2,014	1,581	1,961	1,274	53	307	86.9	10.2	12.9
1882.....	3,391	1,800	1,591	1,747	1,277	53	314	74.2	10.4	12.3
1883.....	3,116	1,684	1,432	1,631	1,132	53	300	72.7	11.6	14.1
1884.....	3,224	1,747	1,477	1,684	1,196	63	281	66.9	10.9	13.4
1885.....	3,334	1,861	1,473	1,865	1,136	56	337	66.7	11.8	15.0
1886.....	3,516	1,981	1,535	1,916	1,184	61	351	75.2	11.5	15.2
1887.....	3,728	2,092	1,636	2,022	1,283	70	348	79.9	10.9	14.8
Totals and average percentages.	31,815	17,593	14,222	17,075	11,343	518	2,879	78.7	10.7	13.6

Years.	Percentage of legitimacy to total births, by color.		Percentage of illegitimacy to total births, by color.		Percentage of illegitimacy to total illegitimates, by color.		Percentage of white illegitimates to white births, and of colored illegitimates to colored births.	
	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
1879.....	54.2	36.7	1.31	7.83	14.0	86.0	2.32	17.60
1880.....	54.7	35.6	1.38	8.35	14.0	86.0	2.43	19.02
1881.....	54.6	35.4	1.47	8.54	14.8	85.2	2.63	19.42
1882.....	51.5	37.7	1.60	9.26	14.4	85.6	2.09	19.73
1883.....	52.4	36.3	1.74	9.63	15.0	85.0	3.14	20.95
1884.....	52.2	37.1	2.00	8.70	18.3	81.7	3.60	19.02
1885.....	54.1	34.7	1.68	10.18	14.3	85.7	3.00	22.88
1886.....	54.5	33.7	1.85	9.98	15.6	84.4	3.28	22.86
1887.....	54.3	34.5	1.83	9.33	16.7	83.3	3.34	21.27
Totals and average percentages.	53.6	35.7	1.65	9.09	15.2	84.7	2.87	19.07

TABLE XXVIII.—Showing the number of still-births, including legitimates and illegitimates, with percentage of each to still-births, and of illegitimates to total still-born, by color, for NINE years, from 1879 to 1887, inclusive.

Years.	Number of still-born.	Color.		Legitimate.		Illegitimate.		Percentage of legitimate to still-births.		Percentage of illegitimate to still-births.		Percentage of illegitimate still-born to total still-born by color.	
		White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
1879	395	130	265	112	171	18	94	28.4	43.3	4.56	23.8	16.0	84.0
1880	358	119	239	105	159	14	80	29.3	44.4	3.90	22.3	14.9	85.1
1881	370	141	229	125	143	16	86	33.8	38.6	4.30	23.0	15.7	84.3
1882	351	140	211	124	146	16	65	35.3	41.5	4.66	18.6	19.7	80.3
1883	362	154	208	136	130	18	69	37.5	38.4	5.07	19.0	20.7	79.3
1884	351	132	219	123	141	9	78	35.0	40.2	2.57	22.2	10.3	89.7
1885	391	179	212	154	127	25	85	39.4	32.5	6.40	21.7	22.7	77.3
1886	406	164	242	149	138	15	104	40.4	34.0	3.70	25.6	12.6	87.4
1887	406	149	257	127	146	22	111	31.3	36.0	5.40	27.3	16.6	83.4
Totals.....	3,390	1,308	2,082	1,155	1,310	153	772	.....	.....	.....	.....	.....	.....

TABLE XXIX.—Deaths and death-rates for the past twelve years.

Year.	January.					February.					March.				
	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.
	Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.	
1875 ..	211	24.33	186	45.05	31.15	176	22.05	209	55.71	32.81	239	27.54	193	47.36	33.89
1876 ..	160	17.99	137	32.32	22.61	148	17.48	162	40.17	24.58	192	21.58	173	40.82	27.79
1877 ..	182	19.94	147	33.36	24.31	172	20.47	175	43.14	27.86	199	21.81	168	36.24	27.12
1878 ..	178	19.01	165	36.03	24.60	158	18.34	128	30.35	22.28	198	21.15	148	32.31	24.82
1879 ..	212	22.07	162	34.03	26.04	161	18.21	174	39.70	25.33	180	18.74	197	41.37	26.24
1880 ..	168	17.05	156	31.51	21.89	193	20.43	181	38.45	26.57	155	15.73	198	40.00	23.85
1881 ..	202	19.98	138	26.81	22.29	176	18.91	186	39.25	25.73	187	18.50	185	35.95	24.39
1882 ..	168	16.20	165	30.84	21.18	171	17.91	196	39.79	25.36	218	21.02	170	31.77	24.68
1883 ..	182	17.29	158	28.87	21.25	170	17.54	158	31.59	22.27	236	22.42	196	35.81	27.00
1884 ..	252	23.14	201	34.81	27.18	202	19.51	200	36.42	25.37	233	21.39	181	31.34	24.34
1885 ..	196	18.00	182	31.52	22.68	232	23.13	213	40.06	29.00	253	23.23	214	37.05	28.02
1886 ..	225	19.85	153	26.61	22.13	196	18.79	203	38.35	25.37	246	21.71	192	33.29	25.64
Total	2,336	.....	1,950	.....	.....	2,155	.....	2,185	.....	.....	2,536	.....	2,215	.....	.....
Mean.	194.8	19.53	162.5	32.35	23.82	179.6	19.57	182.1	39.37	26.21	211.3	21.20	184.6	36.75	26.41

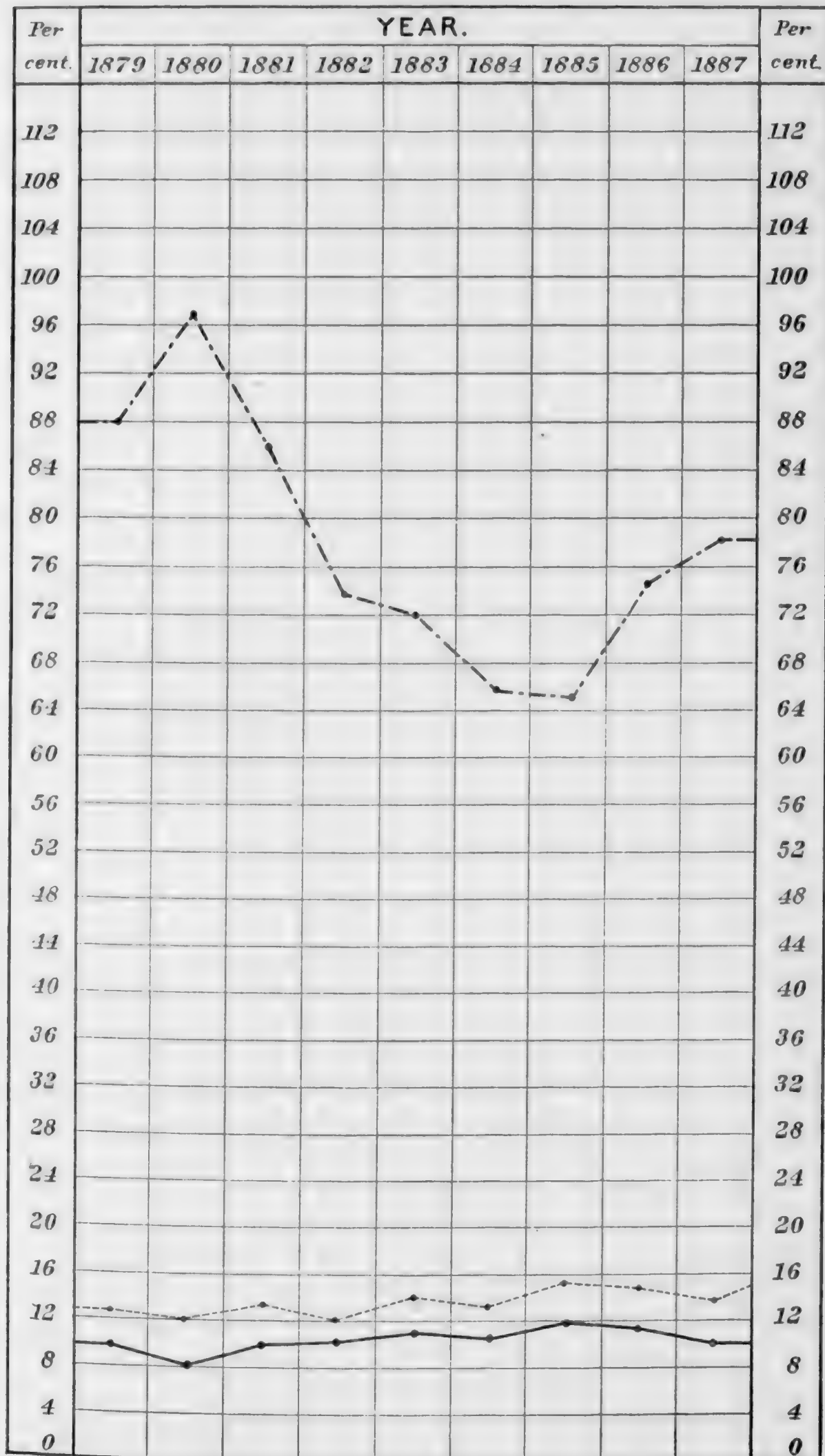
TABLE XXIX.—Deaths and death-rates for the past twelve years—Continued.

Year.	April.					May.					June.				
	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.
	Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.	
1875 ..	174	20.07	168	41.23	26.83	144	16.61	159	39.02	23.71	210	24.22	220	53.99	33.74
1876 ..	143	16.08	153	36.12	22.54	141	15.85	138	32.57	21.24	253	28.44	238	56.15	37.39
1877 ..	148	16.22	145	32.91	21.65	156	17.16	132	29.96	21.28	187	20.49	201	45.62	28.67
1878 ..	145	15.49	174	37.99	22.70	190	20.39	184	40.17	26.83	210	22.43	226	49.34	31.27
1879 ..	176	18.33	118	33.19	23.25	148	15.41	148	31.09	20.61	231	24.05	213	44.74	30.91
1880 ..	160	16.24	165	34.33	21.95	165	16.75	183	36.97	23.51	220	22.33	238	48.08	30.94
1881 ..	191	18.90	194	37.69	25.24	175	17.31	121	23.51	19.40	170	16.82	150	29.15	20.98
1882 ..	178	17.16	160	29.90	21.50	155	14.95	171	32.42	20.74	200	19.29	190	35.51	24.81
1883 ..	219	20.81	162	29.60	23.81	203	19.29	153	27.95	22.25	199	18.91	169	30.88	23.00
1884 ..	225	21.42	175	30.30	24.00	177	16.25	172	29.78	20.94	234	21.48	209	36.19	26.58
1885 ..	210	19.28	220	38.10	25.80	181	16.62	207	35.84	23.28	248	22.77	261	45.19	30.54
1886 ..	184	16.32	194	33.74	22.13	158	13.94	170	29.69	19.26	193	17.03	195	33.91	22.71
Total	2,153	.....	2,068	.....	.....	1,993	.....	1,938	.....	.....	2,555	.....	2,510	.....	.....
Mean.	179.5	18.12	172.3	34.31	23.63	166	16.66	161.5	32.16	21.86	212.9	21.36	209.1	41.64	28.15

Year.	July.					August.					September.				
	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.
	Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.	
1875 ..	223	25.46	203	54.63	32.77	227	25.81	218	52.12	34.01	162	18.68	194	47.61	27.93
1876 ..	298	32.78	269	57.62	42.24	209	22.88	188	43.39	29.44	172	19.34	177	41.74	26.57
1877 ..	224	24.07	252	46.15	34.59	206	22.25	208	46.42	30.11	164	17.97	154	34.95	23.38
1878 ..	222	23.12	251	50.00	33.14	201	20.91	224	47.93	29.77	156	16.66	147	32.10	21.73
1879 ..	250	25.49	242	45.47	33.40	182	18.47	179	36.33	24.56	154	16.04	171	35.92	22.62
1880 ..	192	19.15	179	49.08	24.53	154	15.23	171	33.55	21.37	197	19.99	168	33.94	24.66
1881 ..	236	22.77	245	29.44	30.77	208	20.07	226	42.90	27.76	201	19.84	202	39.12	26.35
1882 ..	230	21.70	214	36.01	27.63	165	15.54	176	32.05	21.17	141	13.57	163	30.36	18.23
1883 ..	300	28.14	210	30.82	31.39	198	18.41	201	36.02	24.57	168	15.76	168	30.10	20.68
1884 ..	223	20.47	202	36.19	25.50	245	22.49	199	34.46	26.64	236	21.67	190	32.90	25.56
1885 ..	323	28.50	272	47.30	34.82	210	18.53	188	32.69	22.13	194	17.12	169	29.39	21.25
1886 ..	218	18.64	222	38.06	25.14	220	18.86	203	34.80	24.17	247	21.17	192	32.91	25.09
Total	2,939	.....	2,761	.....	.....	2,425	.....	2,381	.....	.....	2,192	.....	2,095	.....	.....
Mean	244.7	23.97	230.1	44.52	30.87	202.0	19.78	198.4	38.39	26.03	182.7	17.88	174.6	33.78	23.22

CHART A.

Illustrating the percentages of births to deaths, of still-births to births, and of illegitimate births to total births, for NINE years, from 1879 to 1887, inclusive.

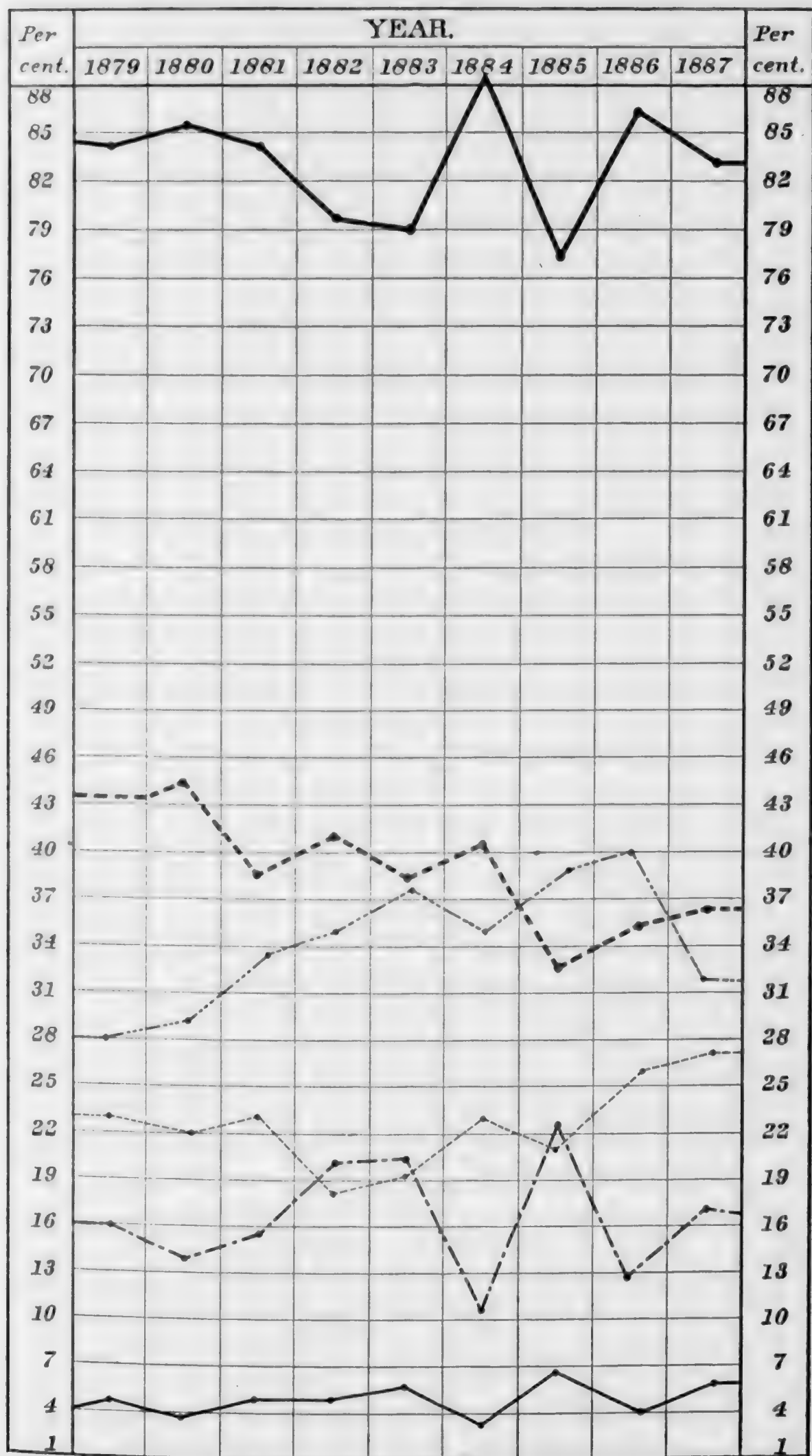


----- Births to deaths.
 Illegimates to births.
 ————— Still-birth to births.



CHART B.

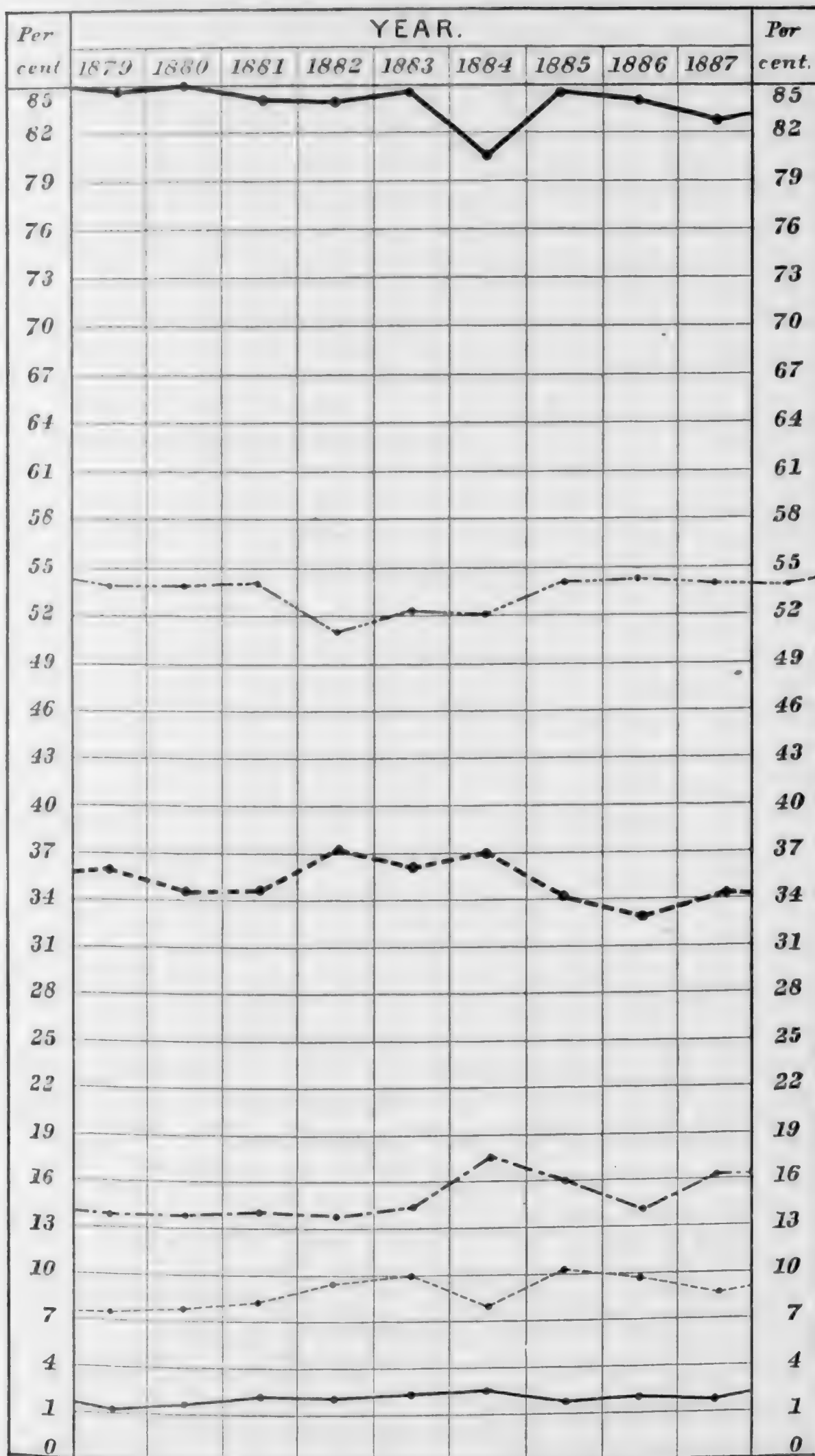
Illustrating the percentages of legitimate and illegitimate still-births to total still-births, and illegitimates, by color, to total illegitimate still-born, for NINE years, from 1879 to 1887, inclusive.



- White Legitimates to total.
- Colored Legitimates to total.
- White Illegitimates to total.
- Colored Illegitimates to total.
- White Illegitimates to all illegitimates.
- Colored Illegitimates to all illegitimates.

CHART C.

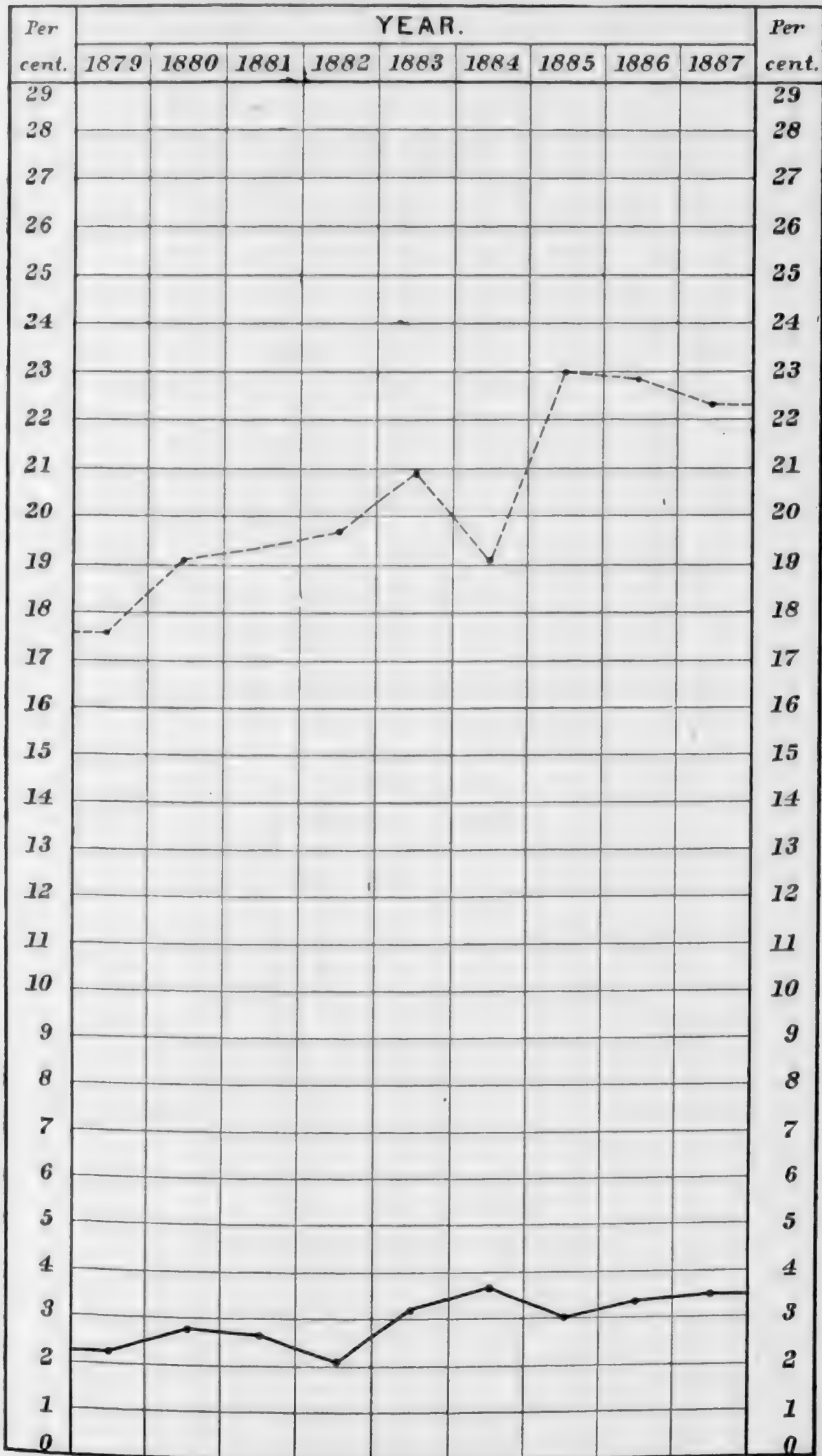
Illustrating the percentages of legitimate and illegitimate births to total births, and illegitimates, by color, to total illegitimates, for NINE years, from 1879 to 1887, inclusive.



- White Legitimates to total.
- White Illegitimates to total.
- Colored Illegitimates to total.
- Colored Legitimates to total.
- White Illegitimates to all illegitimates.
- Colored Illegitimates to all illegitimates.

CHART D.

Illustrating the percentages of white illegitimates to white births, and of colored illegitimates to colored births, for NINE years, from 1879 to 1887, inclusive.



— White Illegitimates.
 - - - Colored Illegitimates.

CHART

SHOWING THE ACTUAL NUMBER OF DEATHS BY COLOR, AND MEAN TEMPERATURE

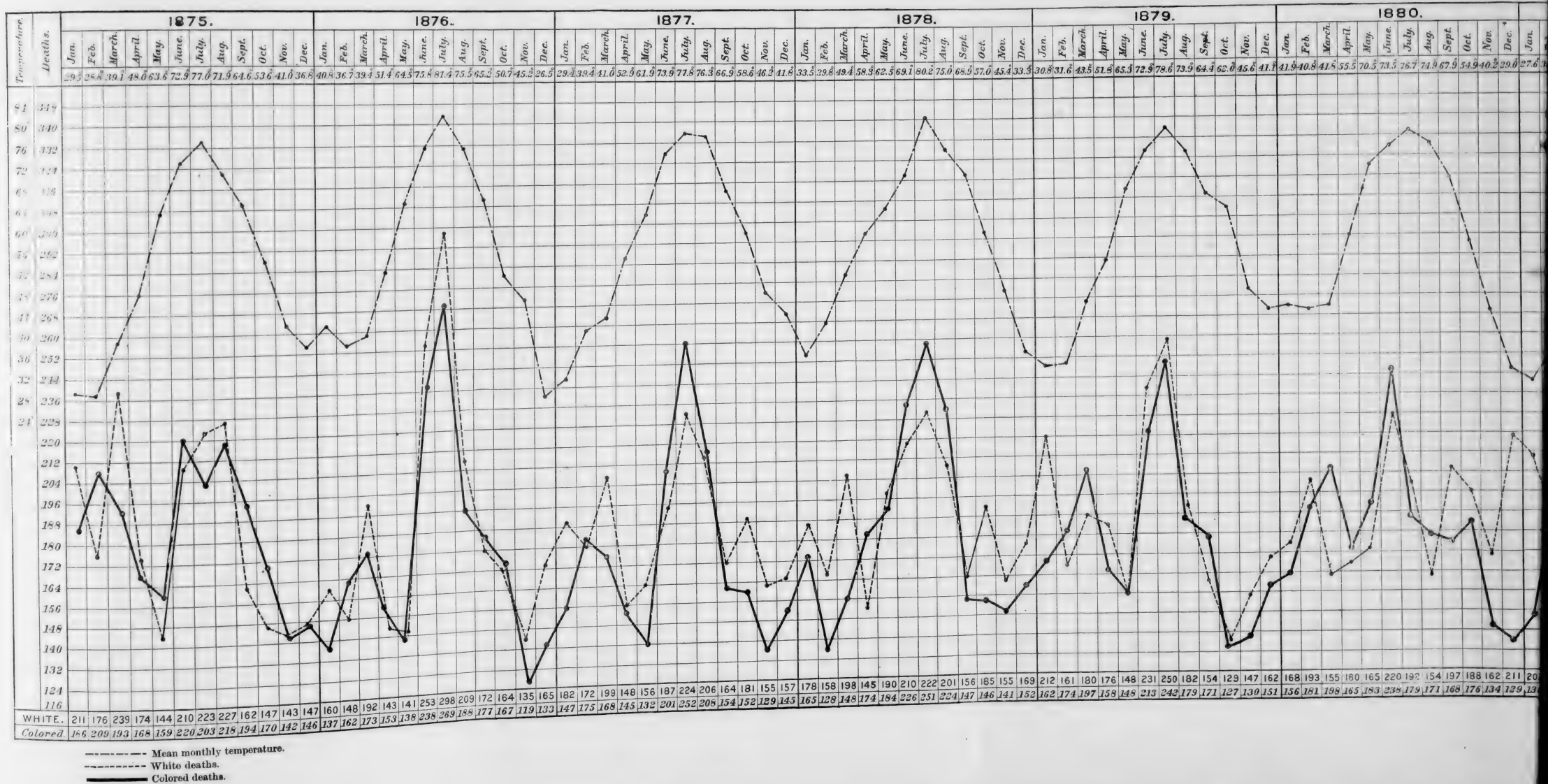
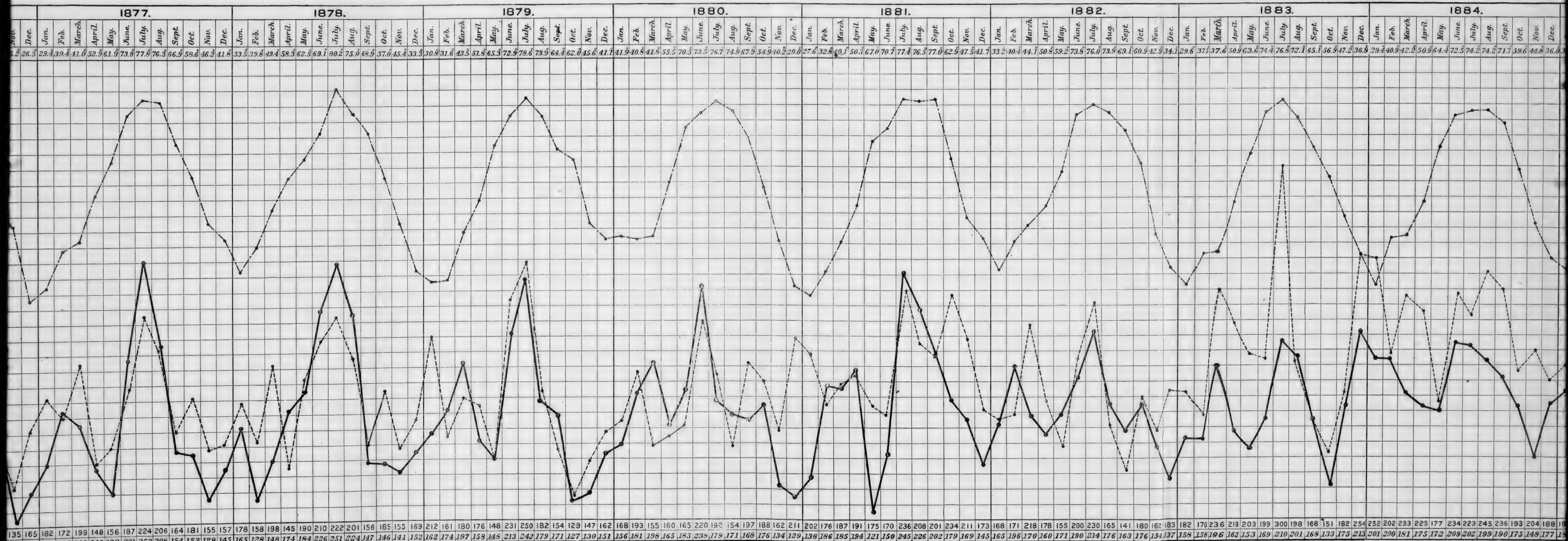


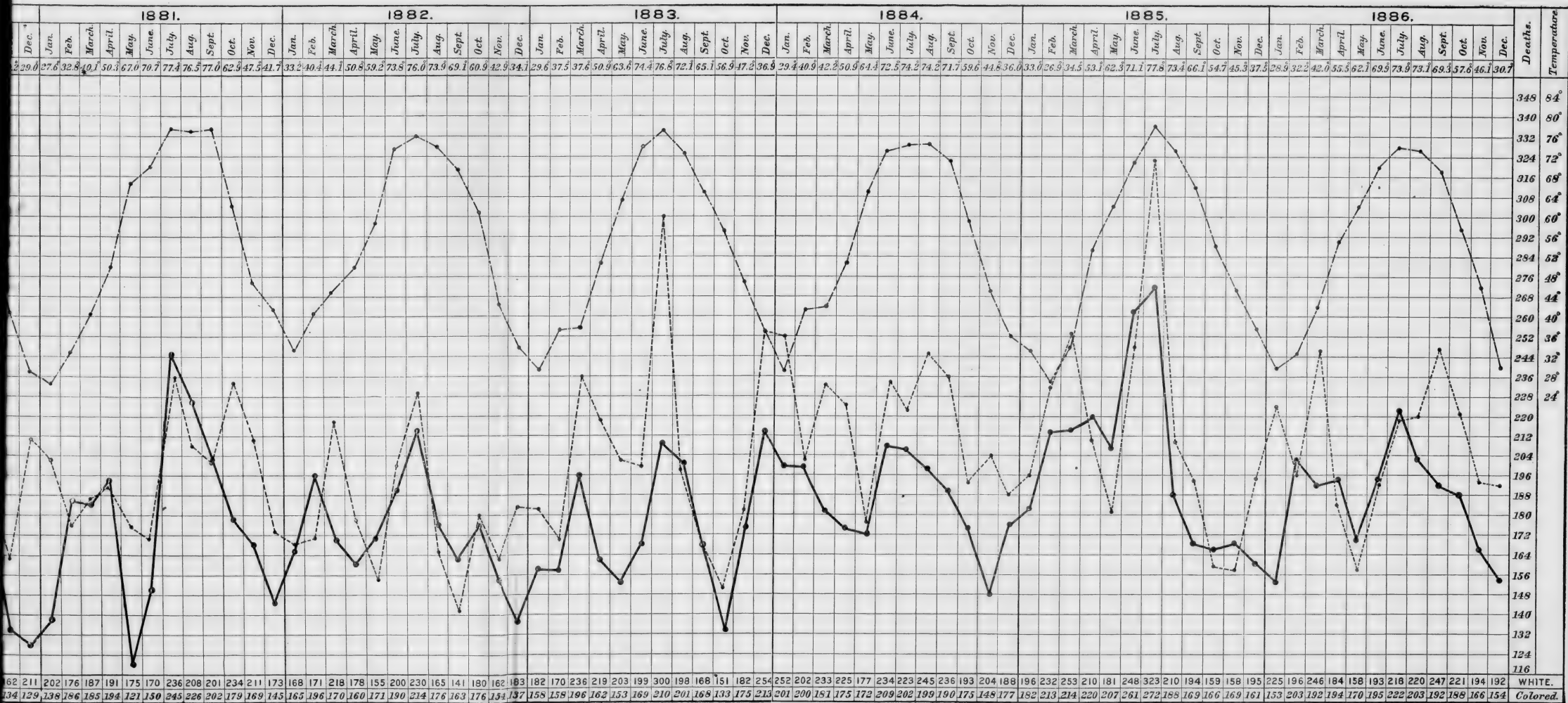
CHART E.

SHOWING THE ACTUAL NUMBER OF DEATHS BY COLOR, AND MEAN TEMPERATURE FOR EACH MONTH, FOR THE TWELVE YEARS, FROM 1875 TO 1886, INCLUSIVE.



ART E.

ATURE FOR EACH MONTH, FOR THE TWELVE YEARS, FROM 1875 TO 1886, INCLUSIVE.



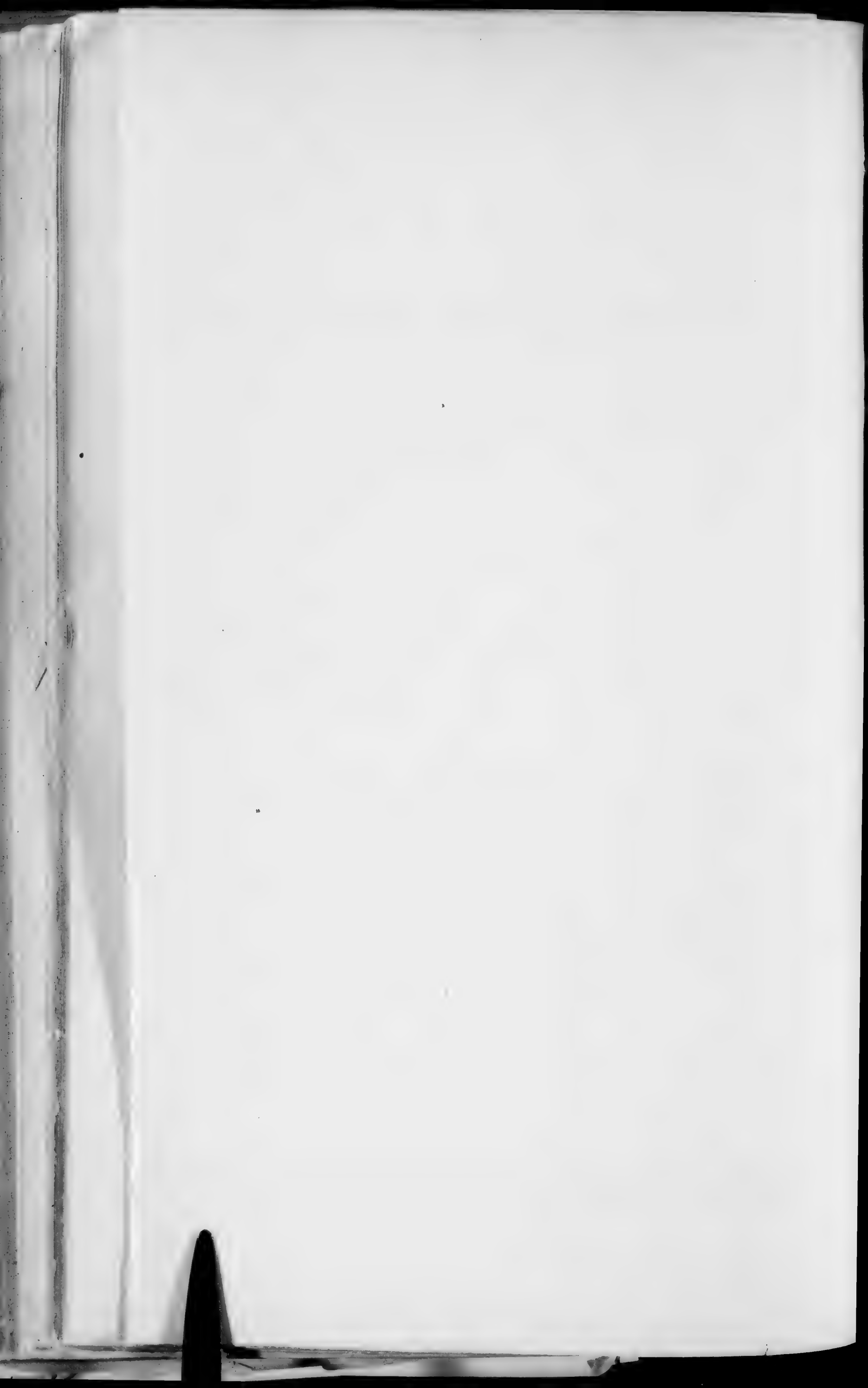


CHART F.

Illustrating the highest number of deaths, by color, for each of the twelve months during the twelve years, from 1875 to 1886, inclusive, together with the maximum temperature for each month, as given by the Chief Signal Officer of the U. S. Army.

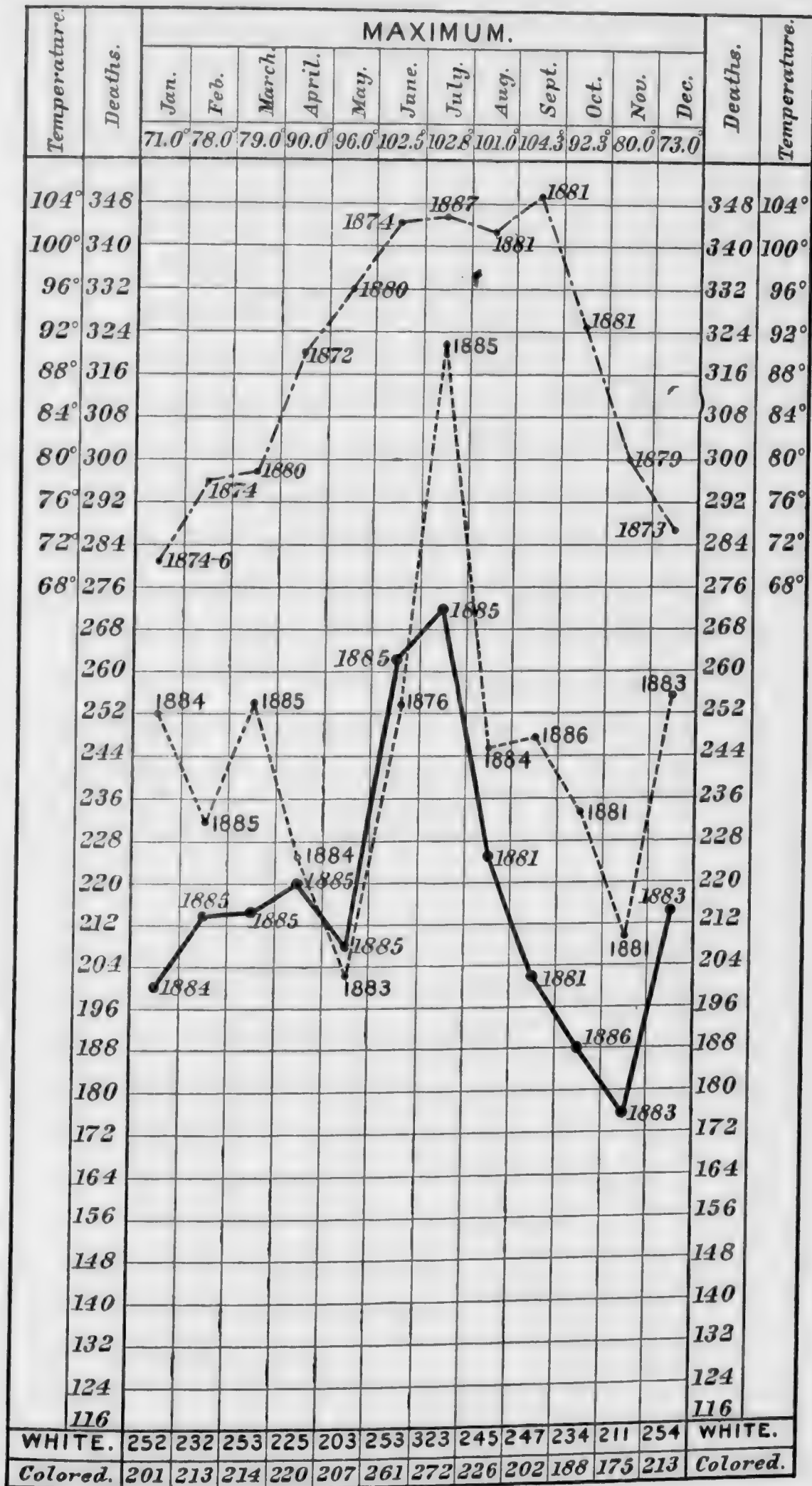
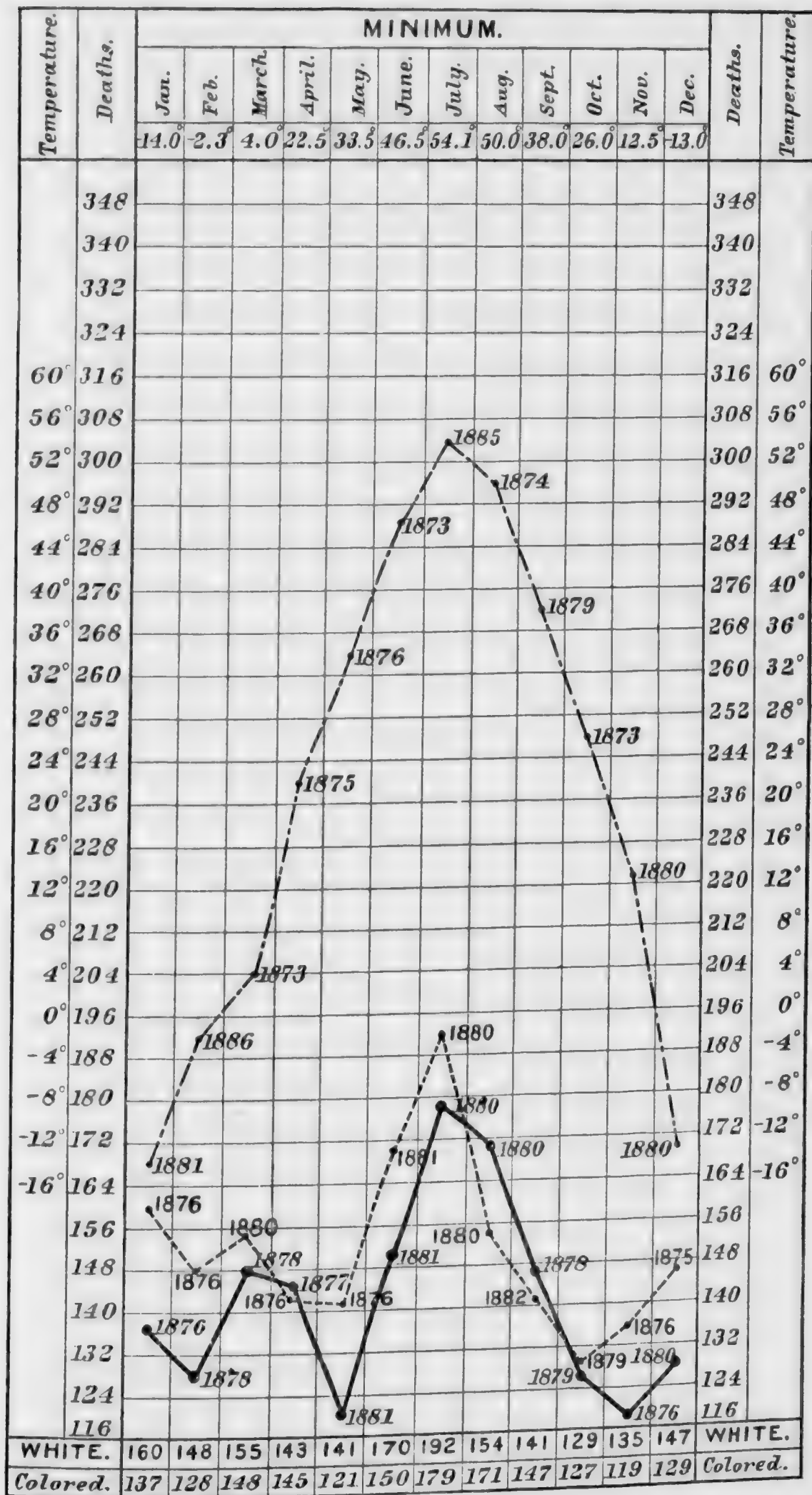


CHART G.

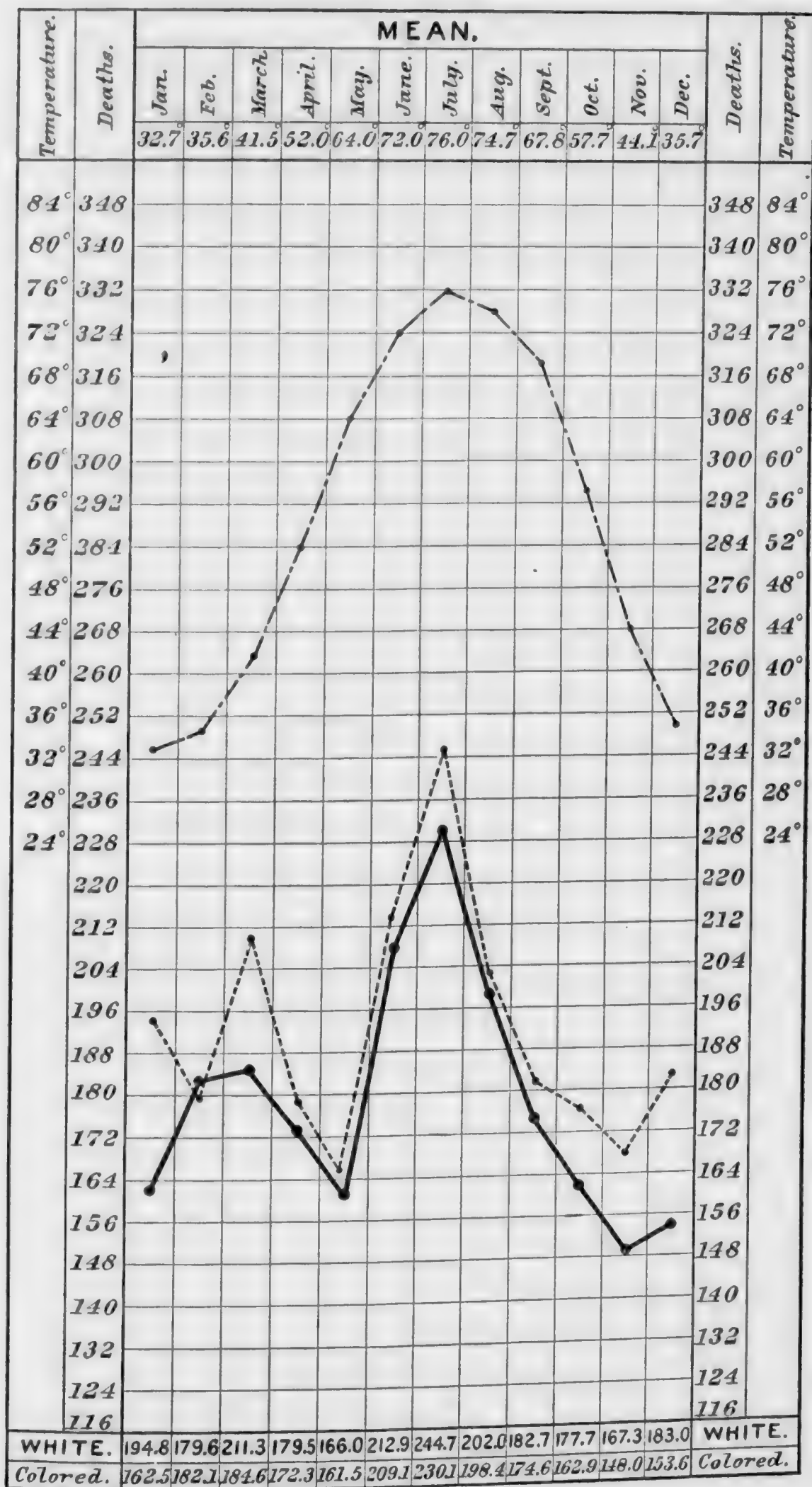
Illustrating the lowest number of deaths, by color, for each of the twelve months during the twelve years, from 1875 to 1886, inclusive, together with the minimum temperature for each month, as given by the Chief Signal Officer of the U. S. Army.



----- Temperature.
 White deaths.
 ————— Colored deaths.

CHART H.

Illustrating the mean number of deaths, by color, for each of the twelve months during the twelve years, from 1875 to 1886, inclusive, together with the normal temperature for each month, as given by the Chief Signal Officer of the U. S. Army.



----- Temperature.
 White deaths.
 ————— Colored deaths.

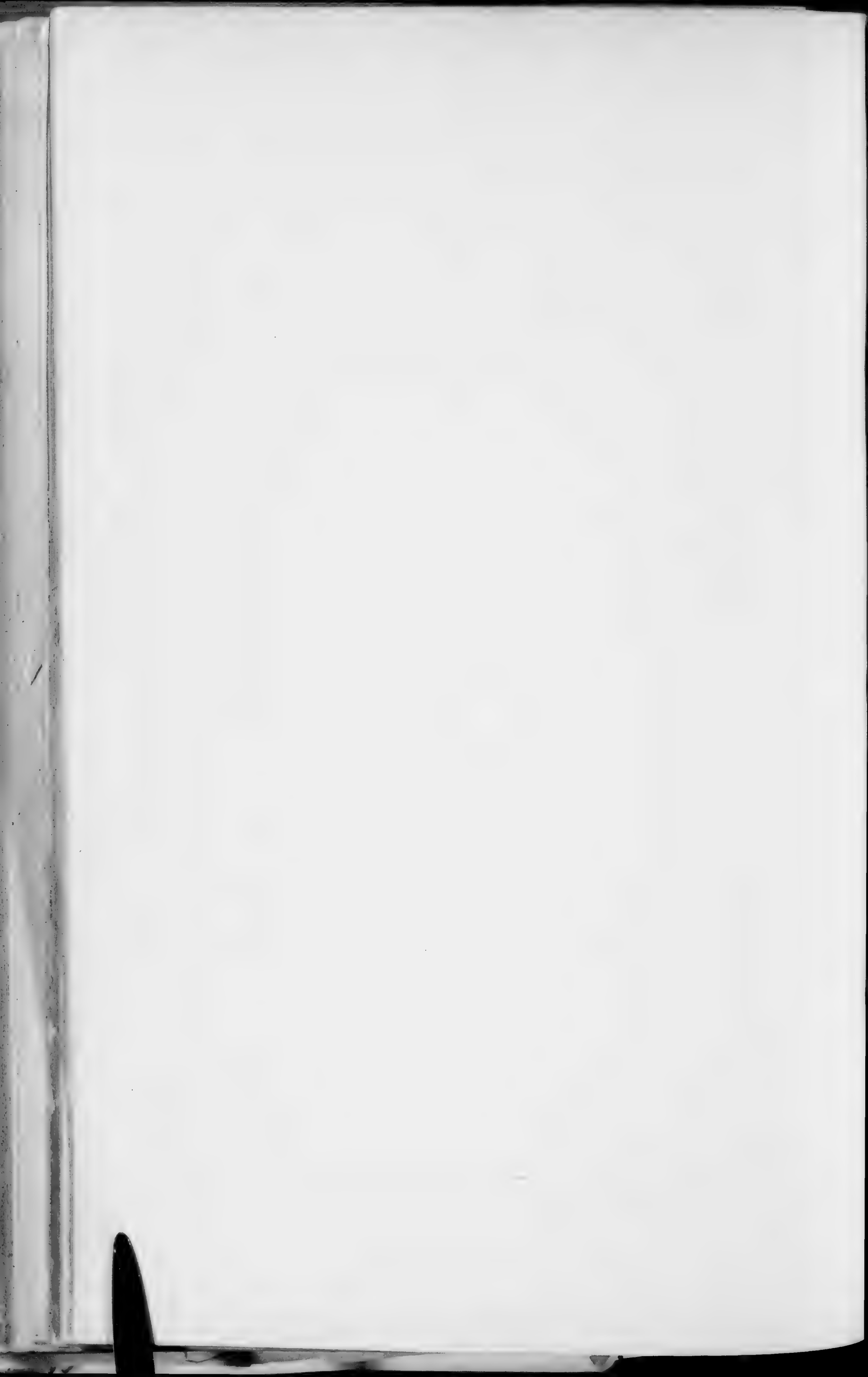
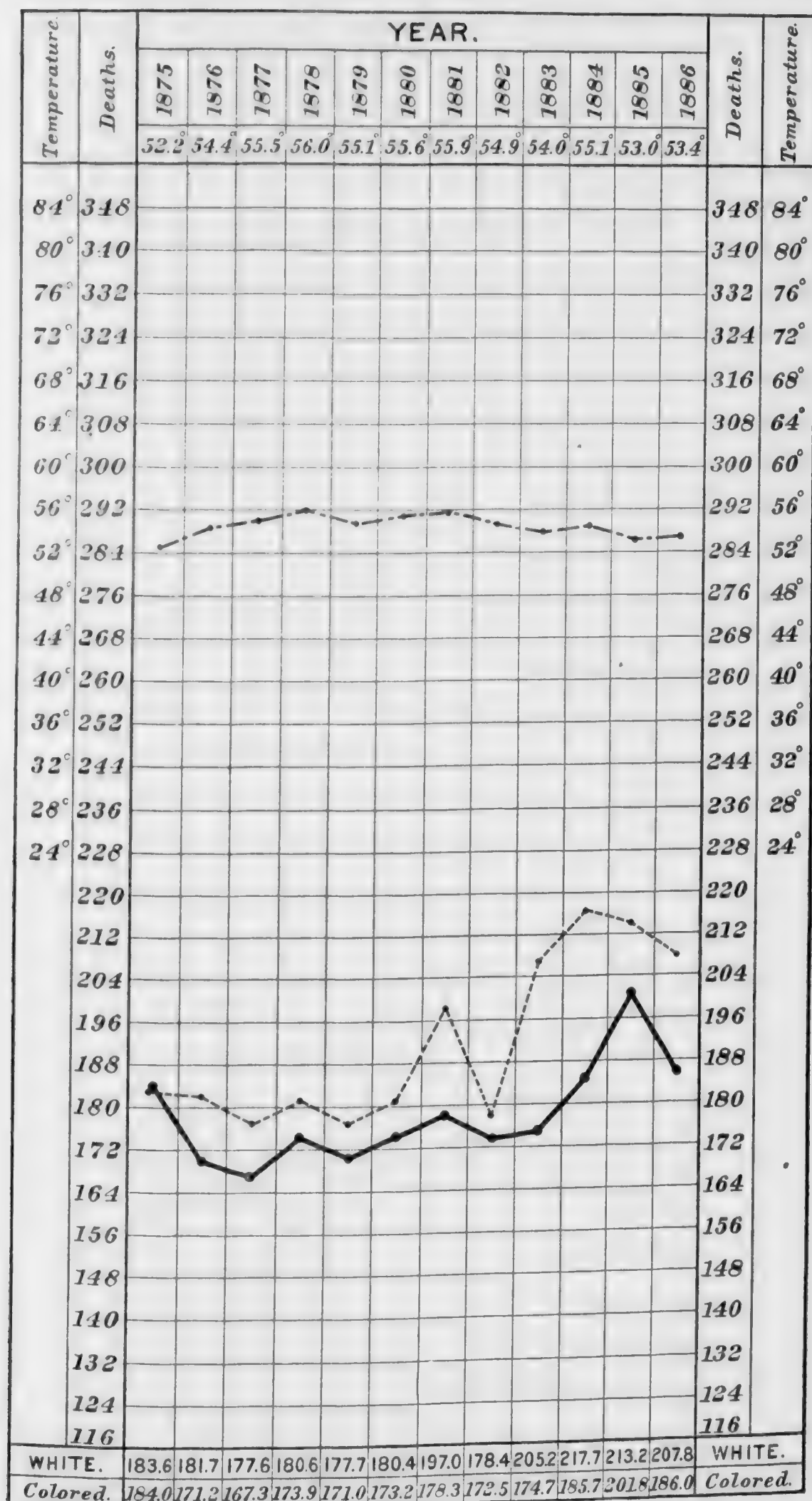


CHART I.

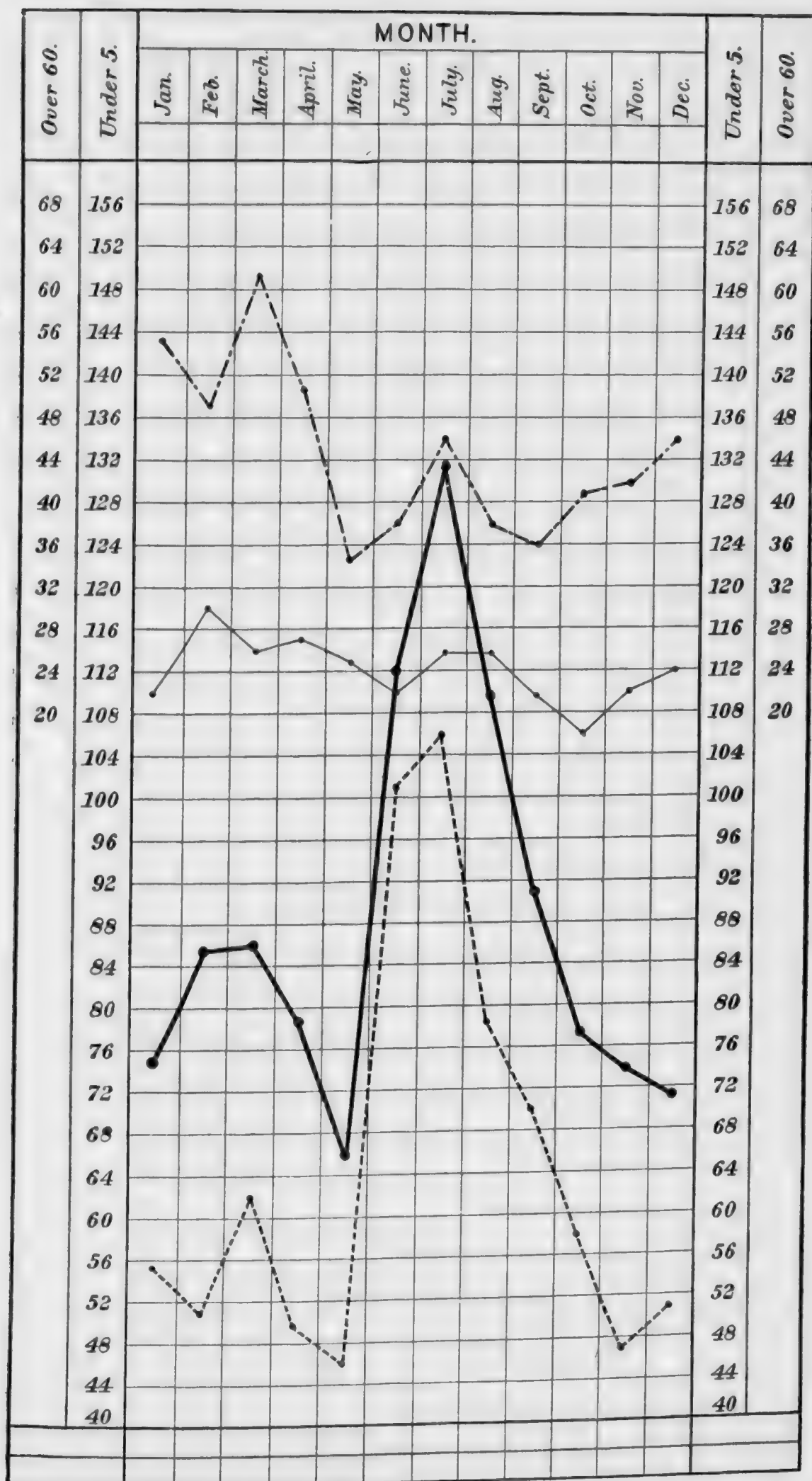
Showing the average monthly number of deaths for each year, from 1875 to 1886, inclusive.



----- Temperature,
 White deaths.
 ————— Colored deaths.

CHART K.

Showing the average monthly number of deaths of children under five years of age; and of persons over sixty years of age less those by violence.



- - - - - White over 60 years.
 - - - - - White children under 5 years.
 ————— Colored over 60 years.
 ————— Colored children under 5 years.

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TABLE XXIX.—Deaths and death-rates for the past twelve years—Continued.

Year.	October.					November.					December.				
	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.	White.		Colored.		Annual death-rate for total population.
	Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.		Deaths.	Annual death-rate.	Deaths.	Annual death-rate.	
1875 ..	147	16.95	170	41.72	24.87	143	16.49	142	34.85	22.36	147	16.95	146	35.83	22.99
1876 ..	164	18.44	167	39.40	25.20	135	15.19	119	28.08	19.34	165	18.55	133	31.38	22.69
1877 ..	181	19.83	152	34.59	24.61	155	16.99	129	29.28	20.99	157	17.20	145	32.91	22.32
1878 ..	185	19.76	146	31.88	23.74	155	16.56	141	30.79	21.23	169	18.05	152	33.19	23.02
1879 ..	129	13.43	127	28.68	17.82	147	15.31	130	27.31	19.28	162	16.87	151	31.72	21.79
1880 ..	188	19.08	176	35.55	24.59	162	16.44	134	27.07	20.00	211	21.41	129	26.05	22.97
1881 ..	234	23.10	179	34.67	27.00	211	20.83	169	32.73	23.76	173	17.08	145	28.08	20.79
1882 ..	180	17.32	176	32.78	22.59	162	15.59	154	28.69	20.05	183	17.61	137	25.52	20.30
1883 ..	151	14.16	133	23.83	17.48	182	17.07	175	31.36	21.98	254	23.82	213	37.84	28.69
1884 ..	193	17.72	175	30.30	22.08	204	18.73	148	25.63	21.12	188	17.26	177	30.65	21.90
1885 ..	159	14.03	166	28.87	19.02	158	14.68	169	29.39	19.14	195	17.21	161	28.00	20.35
1886 ..	221	18.94	188	32.23	23.37	194	16.63	166	28.46	20.57	192	16.43	154	26.34	19.77
Total ..	2,132	.....	1,955	.....	.....	2,008	.....	1,776	.....	.....	2,196	.....	1,843	.....	.....
Mean ..	177.7	17.39	162.9	31.52	22.14	167.3	16.37	148.0	28.62	20.49	183.0	17.91	153.6	29.72	21.88

TABLE XXX.—Deaths of children under five years of age, in the District of Columbia.

Years.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880 ..	47	59	106	49	87	136	51	98	149	56	87	137	45	52	97	71	77	148
1881 ..	54	77	131	62	96	158	73	84	157	48	51	99	65	68	133	102	110	212
1882 ..	52	75	127	39	74	113	82	89	171	48	84	132	58	55	113	80	89	169
1883 ..	74	106	180	68	97	165	59	81	140	62	65	127	46	69	115	123	123	246
1884 ..	56	80	136	58	104	162	69	88	157	49	104	153	42	83	125	112	144	256
1885 ..	61	70	131	57	75	132	46	85	131	37	89	126	30	66	96	80	88	168
1886 ..	46	62	108	23	61	84	58	79	137	52	72	124	38	68	106	135	153	288
Total ..	390	529	919	356	594	950	438	604	1,042	346	552	898	324	461	785	703	784	1,487
Mean ..	55.7	75.6	131.3	50.9	84.9	135.7	62.6	86.3	148.9	49.4	78.9	128.3	46.3	65.9	112.1	100.4	112.0	212.4

Years.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880 ..	86	120	206	69	95	164	56	95	151	67	79	146	52	65	117	53	68	121
1881 ..	114	145	259	95	125	220	86	101	187	71	86	157	56	89	145	40	67	107
1882 ..	108	133	241	50	91	141	40	85	125	71	68	139	45	72	117	49	57	106
1883 ..	149	140	289	75	117	192	70	88	158	39	71	110	46	85	131	79	118	197
1884 ..	72	113	185	114	118	232	94	103	197	52	71	123	50	58	108	53	73	126
1885 ..	131	158	289	66	100	166	67	72	139	35	66	101	39	76	115	41	61	102
1886 ..	86	113	198	83	118	201	77	98	175	65	96	161	41	71	112	42	56	98
1887 ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total ..	745	922	1,667	552	764	1,316	490	642	1,132	400	537	937	329	516	845	357	500	857
Mean ..	106.4	131.7	238.1	78.9	109.1	188.0	70.0	91.7	161.6	57.1	76.7	133.9	47.0	73.7	120.7	51.0	71.4	122.4

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TABLE XXXI.—Deaths of persons over sixty years of age—less those by violence.

Years.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880.....																		
1881.....			78			57			68			74			60			47
1882.....	56	21	77	37	36	73	53	17	70	43	32	75	38	25	63	30	24	54
1883.....	45	23	68	42	21	63	56	30	86	57	17	74	51	17	68	36	20	56
1884.....	50	24	74	53	22	75	64	25	89	53	30	83	32	20	52	34	17	51
1885.....	51	26	77	68	31	99	72	36	108	48	31	79	34	32	60	53	28	81
1886.....	50	17	67	51	43	94	68	30	98	56	26	82	42	28	70	39	21	60
1887.....	57	21	78	43	26	69	54	17	71	47	31	78	33	25	56	40	22	62
Total	309	132	519	294	179	530	367	155	590	304	167	545	230	147	437	232	132	411
Mean	51.5	22.0	74.1	49.0	29.8	75.7	61.2	25.8	84.3	50.7	27.8	77.9	35.0	24.5	62.4	38.7	22.0	58.7

Years.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880.....			47			38			60			62			43			66
1881.....	43	20	63	38	26	64	26	18	44	52	21	73	44	21	65	49	22	71
1882.....	34	21	55	31	22	53	26	25	51	31	29	60	29	17	46	37	21	58
1883.....	51	19	70	38	28	66	33	16	49	32	16	48	49	17	66	64	24	88
1884.....	41	31	72	29	25	54	32	16	48	46	17	63	46	26	72	39	31	70
1885.....	61	31	92	48	23	71	38	28	66	38	17	55	35	26	61	38	21	59
1886.....	49	31	80	42	27	69	64	25	89	44	17	61	47	26	73	47	25	72
1887.....																		
Total	279	153	479	226	151	415	219	128	407	243	117	422	250	133	426	274	144	484
Mean	46.5	25.5	68.4	37.7	25.2	59.2	36.5	21.3	58.1	40.5	18.2	60.3	41.7	22.2	60.9	45.7	24.0	69.2

LIST OF REGISTERED PHYSICIANS PRACTICING IN THE DISTRICT OF COLUMBIA.

Name.	Residence.	Name.	Residence.
Acker, George N.....	1403 N. Y. ave. NW.	Bigelow, Horatio R.....	
Adams, Arthur C.....	808 11th st. NW.	Billard, J. T.....	Laurel, Md.
Adams, B. B.....	927 N. Y. ave. NW.	Bird, James C.....	1336 G st. NW.
Adams, E. A.....	422 8th st. SE.	Bishop, Francis B.....	2210 Pa. ave. NW.
Adams, J. Lee.....	600 N. C. ave.	Bland, M. Cora.....	1121 10th st. SW.
Adams, James Osgood...	937 N. st. NW.	Bliss, D. Willard.....	621 13th st. NW.
Adams, Samuel S.....	1525 I st. NW.	Boarman, Charles V.....	1104 Md. ave. SW.
Albaugh, A. B.....	1320 G st. NW.	Bogan, Martin Van B....	604 Mass. ave. NW.
Alleger, Walter W.....	245 10th st. NE.	Bogan, Samuel W.....	421 G st. NW.
Allen, Charles.....	1112 G st. NW.	Bogue, A. P.....	Bureau of Education, 319 8th st. NE.
Antisell, Thomas.....	1311 Q st. NW.	Bond, Samuel S.....	813 1st st. NW.
Appleby, James F. R....	1430 33d st. NW.	Borrows, Joseph.....	921 E st. NW.
Artaud, Frank.....	Soldiers' Home.	Bovee, J. W.....	Columbia Hospital.
Atwood, Oliver N.....	1935 11th st. NW.	Bowen, Charles H.....	908 6th st. NW.
Augusta, Alexander T...	1319 L st. NW.	Brackett, John E.....	219 A st. SE.
Baggett, John B.....	Mount Pleasant, D. C.	Bray, John.....	1222 C st. SE.
Baker, Frank.....	326 C st. NW.	Briscoe, Walter C.....	317 C st. NW.
Bailey, Thomas B.....	Children's Hospital.	Bromwell, Joseph R....	1138 Conn. ave. NW.
Baldwin, William O....	1918 H st. NW.	Bronson, Charles E.....	502 10th st. NW.
Ball, Charles A.....	233 G st. NW.	Bruckheimer, Moses....	737 6th st. NW.
Ballock, Edward A.....	1510 Q st. NW	Brumbaugh, Gaius.....	918 Mass. ave. NW.
Barker, Howard H.....	1116 H st. NW.	Bryan, Joseph H.....	1400 H st. NW.
Barstow, K. D.....	622 B st. SE.	Buck, Robert H.....	634 Q st. NW.
Barrett, Charles J.....	2112 H st. NW.	Bulkley, John W.....	805 12th st. NW.
Barton, Philip H.....	25 Madison st. NW.	Burghart, C. A.....	457 Mo. ave.
Bates, Newton L.....	1233 17th st. NW.	Burnett, Swann M.....	1734 K st. NW.
Baxter, Jedediah H.....	822 Conn. ave. NW.	Brandt, William E.....	1007 B st. NE.
Baxter, John B. G.....	824 7th st. NE.	Burton, George C.....	801 10th st. NE.
Bayne, John W.....	116 2d st. SE.	Busey, Samuel C.....	1545 I st. NW.
Beall, Benjamin M.....	1736 14th st. NW.	Bushnell, John H.....	1212 10th st. NW.
Beatty, Hugh W.....	17 7th st. SE.	Butler, William K.....	1107 11th st. NW.
Beatty, Louis K.....	610 East Capitol st.	Byrne, C. C.....	Soldiers' Home.
Behrend, Adajah.....	709 H st. NW.	Byrns, William F.....	35 B st. NE.
Bennett, Harrison.....	617 F st. NW.	Caldwell, Charles T.....	1736 Vt. ave.
Bennit, William W.....	1928 14th st. NW.		

LIST OF REGISTERED PHYSICIANS—Continued.

Name.	Residence.	Name.	Residence.
Callan, Cornelius V. N....	1422 F st. NW.	Gleeson, James K. P....	1316 R st. NW.
Caraher, J. V.....	331 C st. SE.	Glennan, J. D.....	420 Boundary st.
Cameron, M.....	915 E st. SE.	Glennan, Patrick.....	420 Boundary st. NW.
Carpenter, James A. S....	439 I st. NW.	Gobrecht, William H....	1222 11th st. NW.
Carpenter, John E.....	623 N. C. ave. SE.	Godding, W. W.....	Gov't Hospital for the Insane.
Carroll, James J.....	1324 13th st. NW.		
Chamberlin, F. T.....	457 C st. NW.	Goldsborough, Edw'd K.	1331 K st. NW.
Chappell, John W.....	Tennallytown, D. C.	Goodell, Charles F.....	920 B st. SW.
Chew, Thomas I.....	204 Pa. ave. SE.	Goodman, William R....	216 13½ st. NW.
Childs, William E.....	Mt. Pleasant.	Goodwin, Eugene.....	1224 9th st. NW.
Christie, Arthur.....	Anacostia, D. C.	Goolrick, Peter.....	1411 G st. NW.
Cissell, W. L.....	613 M st. NW.	Graham, James F.....	907 N. Y. ave. NW.
Clement, Alfred B. C....	1941 Vt. ave.	Graham, Neil F.....	907 N. Y. ave. NW.
Clum, Andrew H. W.....	1429 Corcoran st. NW.	Grinder, George W., jr..	73 H st. NW.
Collins, John F.....	623 2d st. NW.	Groot, S. I.....	924 N. Y. ave. NW.
Connell, Benjamin F.....	3220 N st. NW.	Gurley, R. R.....	3055 Q st. NW.
Cook, G. Tottenham.....	707 P st. NW.	Gunnell, F. M.....	
Cook, G. Wythe.....	3 Thomas Circle.	Hagner, Charles E.....	1507 H st. NW.
Cook, Samuel Le Count..	1526 L st. NW.	Hagner, Daniel R.....	1812 H st. NW.
Corey, Waterman F.....	906 French st.	Hall, Arthur J.....	421 H st. NW.
Corbin, Eliakim L.....	603 La. ave.	Hallwood, James B.....	1612 7th st. NW.
Coues, Elliott.....	1726 N st. NW.	Hamilton, John B.....	9 B st. NW.
Coumbe, John T.....	1304 9th st. NW.	Hammett, Charles M....	644 F st. SW.
Crook, Harrison.....	424 7th st. SW.	Hammond, Thomas V....	713 H st. NW.
Crouse, John L.....	1100 10th st. NW.	Handy, William E.....	300 A st. SE.
Crusor, Collins B.....	2712 O st. NW.	Hansman, Theodore.....	724 13th st. NW.
Custis, J. B. Gregg.....	110 East Capitol st.	Harrison, George B.....	1345 F st. NW.
Custis, George W.....	110 East Capitol st.	Harrison, J. Stinson....	1205 F st. NW.
Cuthbert, Middleton F....	1462 R. I. ave.	Harrison, J. Stewart....	Anacostia, D. C.
Cutts, Harry M.....	1226 14th st. NW.	Hart, Mary Ester.....	1109 G st. NW.
Daniel, Zadoc T.....	1457 14th st. NW.	Hartigan, James F.....	608 14th st. NW.
Darby, John J.....	451 O st. NW.	Hartwell, J. B.....	1831 14th st. NW.
Darling, Benjamin F....	711 7th st. NW.	Harvey, Allen L.....	933 K st. NW.
Darling, Henry.....	Brightwood, D. C.	Harvey, H. M.....	610 B st. NE.
Davidson, J. H.....	Bethesda, Md.	Harvey, P. F.....	U. S. Army, 1832 Jefferson Place.
Davis, Charles A.....	813 14th st. NW.		
Deal, Henry B.....	Garfield Hospital.	Hawkes, William H.....	1400 K st.
Dean, Julian W.....	Bennings, D. C.	Hazen, David H.....	407 6th st. SW.
Dexter, James E.....	453 C st. NW.	Hazen, William P. C....	511 East Capitol st.
Dixon, J. H.....	1727 7th st. NW.	Henderson, George.....	817 T st. NW.
Dorley, F. X.....	301 Pa. ave. SE.	Herbert, J. W.....	Marine Barracks.
Dorsey, Lloyd.....	913 Mass. ave. NW.	Herbert, J. Wells.....	205 H st. NW.
Dorsey, Thomas G.....	400 B st. SE.	Heron, George H.....	1214 6th st. NW.
Dovilliers, Leopold V....	1221 13th st. NW.	Hickling, D. P.....	221 3d st. NW.
DuBose, George P.....	1704 M st. NW.	Hill, Richard S.....	213½ E st. NW.
Dulaney, Joshua L.....	926 I st. NW.	Hiller, James L.....	1016 14th st. NW.
Dunn, John W.....	127 B st. SE.	Hislop, Margaret.....	313 M st. NW.
Duvall, W. T. S.....	1009 L st. NW.	Hoehling, Adolph.....	1355 Corcoran st. NW.
Dyer, John I.....	1438 Corcoran st. NW.	Hofer, Andrew F.....	801 O st. NW.
Eaton, Parley H.....	1318 T st. NW.	Hoffman, W. J.....	222 E st. NW.
Edes, Robert T.....	1216 18th st. NW.	Holden, Raymond T....	802 6th st. SW.
Edson, Susan A.....	1308 I st. NW.	Hood, Thomas B.....	1009 O st. NW.
Eliot, J. Llewellyn.....	510 E st. NW.	Holmes, Charles.....	1737 11th st. NW.
Elsom, James W.....	1940 14th st. NW.	Hoover, Franklin P....	1615 P st. NW.
Evans, Warwick.....	1103 9th st. NW.	Hore, Cassius W.....	945 C st. SW.
Fay, Henry B.....	Cor. 21st and H sts. NW.	Houston, Samuel.....	1417 Columbia st.
Fenwick, George P.....	504 6th st. SW.	Howard, Horatio N.....	918 Mass. ave. NW.
Fernald, Frank Clifton..	1013 14th st. NW.	Howard, James H.....	1724 8th st. NW.
Fisher, G. W.....	Anacostia, D. C.	Howard, John C.....	1228 H st. NW.
Fisher, R. C.....	1234 Mass. Ave. NW.	Howard, Joseph T.....	1126 9th st. NW.
Fizer, William T.....	1819 15th st. NW.	Howell, Arnold G.....	244 3d st. SW.
Foster, Frank J.....	944 S st. NW.	Hughes, William D.....	807 H st. NE.
Foster, Romulus Adams..	2029 Q st. NW.	Hyatt, Frank.....	900 K st. NW.
Fox, George L.....	1803 H st. NW.	Ingram, Thomas D.....	1305 H st. NW.
Fox, William H.....	1517 L st. NW.	Irwin, Fairfax.....	1727 19th st. NW.
Francis, John R.....	2112 Pa. av. NW.	Jameson, A. B.....	Park st., Mt. Pleasant
Franzoni, Charles W.....	810 H st. NW.	Janney, Edgar.....	12 Iowa Circle.
Freer, James A.....	924 N. Y. ave.	Jenkins, Ralph.....	Homeopathic Hospital.
French, Ricardo D.....	1316 T st. NW.	Johnson, Albert E.....	213 1st st. SE.
French, William B.....	114 2d st. SE.	Johnson, Henry L. E....	1400 L st. NW.
Friedrich, Leon L.....	323 East Capitol st.	Johnson, J. B.....	922 N. Y. ave. NW.
Fry, Henry D.....	1133 14th st. NW.	Johnson, Joseph Tabor..	926 17th st. NW.
Gaines, Richard L.....	2131 7th st. NW.	Johnston, George W....	1406 H. st. NW.
Gardner, Frank A.....	1016 14th st. NW.	Johnston, W. W.....	1603 K st. NW.
Garnett, Alexander Y. P.	1317 New York ave.	Jolley, Bushrod B.....	2006 12th st. NW.
Garvin, Henry D.....	1239 12th st. NW.	Joyce, J. W.....	601 E st. NW.
Geddes, William.....	221 E st. NW.	Julihn, M. L.....	2004 7th st. SW.
Gibbs, B. Frank.....	1111 9th st. NW.	Keech, Thomas A. R....	424 East Capitol st.
Gibbs, Thomas F.....	935 Rhode Island ave.	Keenan, John F.....	923 Va. ave. SW.
Gilbert, Charles B.....	1011 H st. NW.	Kelly, Daniel J.....	1635 19th st. NW.
Gill, William T.....	521 12th st. NW.	Kerr, James.....	1314 19th st. NW.
Gilpin, G. E.....	Tennallytown, D. C.	Ketcham, Orlando C....	37 C st. NE.

LIST OF REGISTERED PHYSICIANS—Continued.

Name.	Residence.	Name.	Residence.
Kidder, Jerome H.....	1816 N st. NW.	Morgan, J. Dudley.....	907 E st. NW.
King, A. F. A.....	726 13th st. NW.	Morrison, Mary E.....	1809 13th st. NW.
King, Ernest F.....	923 M st. NW.	Morris, G. G.....	708 13th st. NW.
King, William R.....	812 11th st. NW.	Muhleman, Samuel A.....	808 N. J. ave. NW.
King, George S.....	707 M st. NW.	Muncaster, Magruder.....	1405 N. Y. ave. NW.
Kingsman, R. T.....	713½ E. Capitol st. NE.	Muncaster, Otho M.....	1405 N. Y. ave. NW.
Kleinschmidt, C. H. A.....	3118 N st. NW.	Mundell, John H.....	1022 18th st. NW.
Koonce, Charles K.....	Wash. Asy. Hospital.	Munson, Reginald.....	1140 Conn. ave. NW.
Koonce, Howard.....	915 Pa. ave. NW.	Murphy, Patrick J.....	Columbia Hospital.
Kramer, Thomas B.....	503 B st. SE.	Naylor, William L.....	456 M st. NW.
LaFetra, G. H.....	606 9th st. NW.	Neall, John H.....	1603 7th st. NW.
Lamb, D. S.....	800 10th st. NW.	Neale, Richard A.....	1808 Pa. ave. NW.
Lamb, John Melvin.....	706 B st. SW.	Neely, John R.....	215 1st st. SE.
Landers, Thomas.....	1022 8th st. NW.	Newman, Henry M.....	2403 Pa. ave. NW.
Lang, Charles J.....	1313 N st. NW.	Newton, Lewis E.....	413 L st. NW.
Latimer, George.....	1326 N. Y. ave. NW.	Norcom, Henderson S.....	456 C st. NW.
Lawver, Winfield P.....	1912 I st. NW.	Norton, Charles A.....	815 H st. NE.
Leach, Hamilton E.....	400 7th st. SW.	Norton, Thomas M.....	2033 H st. NW.
Leary, M. A.....	1637 10th st. NW.	Norwood, John.....	1725 11th st. NW.
Lee, George.....	1319 Vt. ave. NW.	Nourse, Henry D.....	2823 Q st. NW.
Lee, William.....	2111 Pa. ave. NW.	Ober, George C.....	210 B st. SE.
Leech, D. Olin.....	615 H st. NE.	Okie, William T.....	1331 F st. NW.
Leech, George A.....	2217 13th st. NW.	O'Reilly, R. M.....	917 12th st. NW.
Lewis, C. O.....	Bladensburg, Md.	Osmun, Charles J.....	905 I st. NW.
Lincoln, N. S.....	1514 H st. NW.	Page, William R.....	807 12th st. NW.
Lindsay, Harvey.....	824 Conn. ave. NW.	Palmer, Gideon S.....	1113 Mass. ave. NW.
Little, Joseph W.....	414 C st. SE.	Palmer, William G.....	929 H st. NW.
Little, J. J.....	1511 R st. NW.	Parcel, John C.....	38 Defrees st.
Lorini, Raphael.....	1418 20th st. NW.	Parsons, John.....	2223 13th st. NW.
Love, Minnie C. T.....	629 9th st. NE.	Parsons, Mary A.....	1216 H st. NW.
Lovejoy, J. W. H.....	900 12th st. NW.	Patten, Joseph L.....	2100 H st. NW.
Luce, Charles B.....	Providence Hospital.	Patterson, A. C.....	Government Hospital for the Insane.
Luckett, William F.....	1351 Corcoran st. NW.	Patterson, DeWitt C.....	919 I st. NW. (coroner).
Luttrell, S. S.....	600 6th st. NW.	Penrod, Hiram J.....	Mt. Pleasant.
Lyon, S. B.....	Government Hospital for the Insane.	Perkins, James T.....	22 8th st. NE.
McArdle, Thomas E.....	1118 N. Y. ave. NW.	Perry, George N.....	1524 14th st. NW.
McBlair, J. H.....	2029 I st. NW.	Peter, Armistead.....	3044 O st. NW.
McIlhany, J. S.....	936 N. Y. ave. NW.	Petteys, Charles V.....	425 4th st. NW.
McKim, S. A. H.....	25 5th st. SE.	Pile, Mayne M.....	906 L st. NW.
McKone, James J.....	521 12th st. NW.	Pool, Ben. G., med. san. inspector.	945 R. L. ave. NW.
McLain, J. S.....	1924 N st. NW.	Pope, Gustavus W.....	1109 14th st. NW.
McLaughlin, Thomas N.....	825 14th st. NW.	Porter, Henry C.....	3035 O st. NW.
McPherson, Dorsey M.....	1822 15th st. NW.	Poulton, William E.....	426 4½ st. SW.
McVary, Stephen A.....	616 2d st. SW.	Pratt, Daniel.....	95 Myrtle st.
McWilliams, A.....	461 Mo. ave. NW.	Prentiss, Daniel W.....	1101 14th st. NW.
Mackall, James McV.....	1015 20th st. NW.	Purvis, Charles B.....	1118 13th st. NW.
Mackall, Louis.....	3040 Dumbarton st.	Purman, J. J.....	1435 Chapin st. NW.
Maddox, William J.....	403 H st. NE.	Pyles, Richard A.....	Anacostia, D. C.
Madison, Benjamin F.....	417 B st. SE.	Radcliffe, Samuel J.....	1523 K st. NW.
Magruder, George L.....	815 Vt. ave. NW.	Rauterberg, Charles.....	215 3d st. NW.
Mallam, Charles E.....	1231 N. Y. ave. NW.	Rauterberg, L. E.....	510 5th st. NW.
Mallan, Thomas F.....	216 2d st. SE.	Ravenburg, R.....	1448 Pierce st. NW.
Mann, Henry L.....	334 Indiana ave. NW.	Rawlings, C. M.....	721 D st. SE.
Mann, W. A.....	1003 K st. NW.	Reed, Thomas J.....	1437 S st. NW.
Manning, William P.....	2002 14th st. NW.	Reilly, James R.....	221 4½ st. SW.
Markriter, John J.....	705 6th st. NW.	Reuss, Peter J.....	307 G st. NW.
Marmion, William V.....	1108 F st. NW.	Reyburn, Robert.....	714 13th st. NW.
Marshall, Collins.....	1010 11th st. NW.	Reyburn, Robert, jr.....	714 13th st. NW.
Marsteller, A. A.....	304 C st. NW.	Richardson, Charles W.....	1106 L st. NW.
Martin, Thomas.....	310 N. Y. ave. NW.	Riggs, Daniel H.....	1012 Mass. ave.
Marvel, Philip.....	1202 K st. NW.	Ritchie, Louis W.....	3259 N st. NW.
Marx, George.....	924 Mass. ave. NW.	Rixey, P. M.....	1707 N. Y. ave. NW.
Massey, Thomas E.....	2135 L st. NW.	Robbins, Henry A.....	1214 15th st. NW.
Mason, John Edwin.....	2100 H st. NW.	Roberts, Grace.....	420 C st. SE.
Mauss, Richard G.....	1701 6th st. NW.	Roberts, Palmer W.....	1106 B st. NE.
Maxwell, Charles D.....	1716 I st. NW.	Roberts, Robert R.....	429 3d st. NE.
May, J. Frederick.....	2022 G st. NW.	Roberts, William E.....	715 G st. SE.
Mayfield, Clifton.....	1333 30th st. NW.	Robinson, Thomas.....	1328 T st. NW.
Marr, Samuel S.....	1415 10th st. NW.	Rogers, Alphonzo P.....	737 4th st. SE.
Mason, William C.....	801 L st. NW.	Rosse, Irving C.....	1723 H st. NW.
Mead, Theodore.....	902 22d st. NW.	Roy, Philip S.....	1005 9th st. NW.
Melvin, McCarty B.....	721 4½ st. SW.	Saffold, James P.....	1604 8th st. NW.
Meriam, Ephraim C.....	622 N. J. ave. NW.	St. Clair, F. O.....	1428 R. I. ave. NW.
Miller, Allen E.....	902 3d st. SW.	Samson, George C.....	2423 Pa. ave. NW.
Miller, Thomas.....	1616 7th st. NW.	Schaeffer, Edward M.....	1319 F st. NW.
Miller, William L.....	410 K st. NW.	Scholl, Joseph.....	615 D st. NW.
Moffatt, Samuel S.....	721 11th st. NW.	Sellhausen, Ernst A.....	640 G st. NW.
Moore, Joseph B.....	57 K st. NE.	Sessford, Joseph S. F.....	2016 F st. NW.
Moran, John F.....	3009 M st. NW.	Shackelford, J. F.....	1908 N. H. ave. NW.
Morgan, Edwin Leo.....	1909 Pa. ave. NW.	Shadd, F. J.....	Freedmen's Hospital.
Morgan, Ethelbert C.....	918 E st. NW.	Shearer, J. G.....	1216 H st. NW.
Morgan, James E.....	905 E st. NW.		

LIST OF REGISTERED PHYSICIANS—Continued.

Name.	Residence.	Name.	Residence.
Shekell, Abraham B.....	1529 32d st. NW.	Toner, Joseph M.....	615 La. ave. NW.
Shirley, A. B.....	1336 Q st. NW.	Torrey, Turner.....	Anacostia, D. C.
Shoulters, George H.....	1444 R. I. ave. NW.	Townshend, Smith	221 4½ st. NW.
Shute, D. Kerfoot.....	908 K st. NW.	(health officer).	
Smith, Thomas C.....	1133 12th st. NW.	Trott, Thomas H.....	232 N. J. ave. SE.
Smith, William T.....	Freedmen's Hospital,	Turner, T. J.....	1707 N. Y. ave. NW.
Snowden, Arthur.....	1273 N. H. ave. NW.	Tyler, Abbie C.....	401 3d st. NW.
Snyder, Arthur A.....	1303 31st st. NW.	Tyler, Lachlan.....	904 14th st. NW.
Sonnenschmidt, Chas. W.	1307 H st. NW.	Tyler, W. Bowie.....	2918 P st. NW.
Sothoron, James T.....	1919 I st. NW.	Trist, H. B.....	809 H st. NW.
Sowers, Z. T.....	1320 N. Y. ave. NW.	Trudgian, Josiah B.....	109 Mass. ave. NW.
Spackman, Mary D.....	1634 16th st. NW.	Verdi, Tullio S.....	815 14th st. NW.
Sprigg, William.....	Garfield Hospital.	Wagner, G. H.....	417 N. J. ave. NW.
Stafford, John J.....	467 F st. SW.	Wales, Philip G.....	813 Vt. ave. NW.
Stack, M. J.....	Government Hospital	Wales, Philip S.....	813 Vt. ave. NW.
	for the Insane.	Walsh, Ralph.....	1328 N. Y. ave. NW.
Stanford, Flora H.....	411 d st. NW.	Walter, John.....	1010 F st. NW.
Stanton, J. O.....	1344 G st. NW.	Ward, William W.....	2025 H st. NW.
Stearns, S. S.....	1425 R. I. ave. NW.	Warman, W. H. H.....	939 T st. NW.
Stephenson, Joseph G.....	1007 F st. SW.	Watts, S. Roger.....	1808 M st. NW.
Stockstill, David C.....	808 I st. NW.	Wells, C. A.....	Hyattsville, Md.
Stone, Charles G.....	Brightwood, D. C.	West, George W.....	1102 14th st. NW.
Stone, T. Ritchie.....	1630 R. I. ave. NW.	Weston, Edmund.....	1609 13th st. NW.
Stoner, George W.....	1115 17th st. NW.	Werner, Philip P.....	608 Mas. ave. NW.
Stratton, J. T.....	517 7th st. SE.	White, C. H.....	Museum of Hygiene.
Strieler, M. B.....	912 East Capitol st.	Williams, Green D.....	1463 Pierce Pl., NW.
Street, Daniel B.....	823 H st. NW.	Winslow, Caroline B.....	1 Grant Place, NW.
Suddarth, James L.....	821 North Capitol st.	Winter, Eugene C. C.....	601 H st. SW.
Sumby, Sidney A.....	315 F st. SW.	Winter, John T.....	1528 9th st. NW.
Sumner, Jeannette J.....	1306 F st. NW.	Witmer, A. H.....	Gov't Hosp. for the In-
Suter, Henderson.....	1207 31st st. NW.		sane.
Sweetman, J. T.....	2112 H st. NW.	Wirt, William D.....	440 H st. NW.
Sweetman, J. T., jr.....	Columbia Hospital.	Wolhaupter, David P.....	801 H st. NW.
Swormstedt, Lyman B.....	1455 14th st. NW.	Woodman, Frank J.....	611 E. Cap. st.
Talbott, H. T.....	101 2d st. NW.	Womersley, E. E.....	1809 K st. NW.
Tancil, Arthur W.....	2116 Pa. ave. NW.	Wooley, George W.....	942 F st. SW.
Tarkington, Joseph A.....	217 D st. NW.	Wooster, Mary L.....	2020 14th st. NW.
Taylor, Leroy M.....	701 M st. NW.	Yarnall, J. H.....	3120 N and 3028 P sts.
Taylor, T. Archibald.....	111 C st. NE.		NW.
Taylor, William H.....	619 M st. NW.	Yarrow, H. C.....	814 17th st. NW.
Thompson, J. Ford.....	804 17th st. NW.	Young, James T.....	1336 N. Y. ave. NW.
Thompson, Millard F.....	478 Md. ave. SW.	Young, Parke G.....	1317 8th st. NW.

LIST OF REGISTERED UNDERTAKERS.

Anderson, J. H.....	Hillsdale, D. C.	Jordan, H.....	1206 R st. NW.
Barker, R. W.....	612 11th st. NW.	James, John S.....	Anacostia, D. C.
Birch, Jos. F.....	3043 M st. NW.	Kickhany, William.....	52 2d st. Georgetown.
Boteler, E. M.....	735 8th st. SE.	Kelly, William B.....	707 7th st. SW.
Burgdorf, August.....	312 Pa. ave. NW.	Lee, John W.....	332 Pa. ave. NW.
Betters, G. C. H.....	1408 S. C. ave. SE.	Lee, Joseph C.....	1808 14th st. NW.
Berry, D. A.....	321 Va. ave. SW.	Lewis, William.....	2247 Boundary st. NW.
Bond, Thomas.....	Uniontown, D. C.	Mitchell, J. M.....	914 11th st. SE.
Brown, W. P. & Son.....	Cor. 9th & E sts. SE.	McHenry, J. P.....	Mt. Olivet Cemetery.
Burdette, William F.....	Presbyterian Cemetery	McKerichar, Alexander	Glenwood Cemetery.
Bellew, Mrs. M. A.....	633 N. J. ave. NW.	Moudy, M. L.....	Rock Creek Cemetery.
Cain, R. S.....	1011 7th st. NW.	Minor, David.....	729 12th st. SE.
Campbell, George.....	500 K st. SW.	Murray & Malley.....	1248 11th st. SE.
Clements, J. T.....	1235 32d st. NW.	Parker, A.....	1734 L st. NW.
Cross, J. B.....	Congressional Cemetery.	Speare, W. R.....	940 F st. NW.
Cohen, Moses.....	8th bet. H & I sts. NW.	Spindler, Fred.....	1233 7th st. NW.
Canter, C. E.....	1818 L st. NW.	Spindler, William F.....	1029 7th st. NW.
Day, Addison.....	301 4½ st. SW.	Sigourney, W. S.....	2824 Pa. ave. NW.
Davis, J. H.....	1626 11th st. NW.	Shelton, J. H.....	Methodist Cemetery.
Dabney, J. H.....	441 L st. NW.	Smith, N.....	1723 Cedar st. NW.
Duvall, L. E.....	731 4½ st. SW.	Sims, John.....	M st. Georgetown.
Dorsey, Robert.....	Tennallytown.	Speaks, Henry.....	Payne's Cemetery.
Friess, Frederick N.....	1008 6th st. NW.	Tiless, Moses.....	Cor. 12th st. and R. I.
Geier, Frank, Sons.....	1113 7th NW.		ave. NW.
Gasch, Francis.....	Bladensburg, Md.	Travers, D. T.....	1110 3d st. SW.
Gafford, W. H.....	Graceland Cemetery.	Wright, J. R.....	1137 10th st. NW.
Gawler, Joseph.....	1726 Pa. ave. NW.	Wise, G. W.....	2900 M st. NW.
Harvey, R. F.....	922 Pa. ave. NW.	Williams, Lemuel.....	1705 Pa. ave. NW.
Herbert, J. F.....	Harmony Cemetery.	West, John.....	1113 Q st. NW.
Henry, George B.....	1003 3d st. SW.	Zurhorst, G. P.....	320 Pa. ave. SE.

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LIST OF REGISTERED PLUMBERS.

Name.	Residence.	Name.	Residence.
Atchison, Julius I.	1316 14th st. NW.	Jenks, W. S. & Co.	717 7th st. NW.
Anadale, John A.	1236 9th st. NW.	King, Frank A.	1319 7th st. NW.
Anderson, James F.	304 B st. SE.	Keppel, John A.	17 H st. NE.
Atchison, R. A. & C. B. .	913 U st. NW.	Kerr, Thomas W.	917 F st. NW.
Artz, Samuel.	3027 M st. NW.	Krause, John.	1910 K st. NW.
Bailey, O. N.	811 4½ st. SW.	Keese, W. F.	6th st. and Va. ave. NW
Bond, R.	133 Pa. ave. NW.	Knorleine, George.	1221 North Capitol st.
Barker, J. W.	401 7th st. SW.	Knight, W. P.	508 H st. NW.
Bride, C. T.	306 Pa. ave. SE.	Lockhead, James.	1404 Pa. ave. NW.
Brien, Jas. F.	419 9th st. NW.	Lyon, John.	441 G st. NW.
Brooks, R. C.	627 D st. NW.	Lee, William.	4 3d st. SE.
Brooks, E. F.	531 15th st. NW.	Lockhead, Charles.	Sherman ave. NW.
Barnard, Edward.	926 19th st. NW.	McAvoy, G. F.	706 14th st. NW.
Beuter, Max A.	606 D st. NW.	McAvoy, John M.	1208 24th st. NW.
Bagby, William W.	807 4th st. NW.	McBee, Randolph.	1227 7th st. NW.
Berry, Wm. H. & Jas. E Suit.	534 8th st. SE.	Moran, John.	2126 Pa. ave. NW.
Butler, John A.	931 5th st. NW.	McMahon, John J.	901 26th st. NW.
Busey, Walter.	1313 5th st. NW.	Mitchell, John.	820 14th st. NW.
Brill & Hayden.	308 Pa. ave. NW.	Miller, Thomas W.	931 9th st. NW.
Berry, W. O.	503 9th st. NW.	Martin, Winfield S.	88 Myrtle st. NE.
Brown, Martin V.	8th bet. G and E sts. SE, rear Odd Fellows Hall.	Marsden, Frank L.	503 7th st. SW.
Brown, Thomas.	1316 Mass. ave. NW.	McCarthy, Michael A.	626 North Capitol st.
Bowden, Charles W.		Matthews, Charles.	344 Maine ave.
Bounds, Oliver.	B. & O. Depot.	Murphy, Morris.	115 I st. NW.
Collins, H. K.	1604 14th st. NW.	Murray, F. W.	1115 Park Place NE.
Conner, James A.	702 O st. NW.	McNier, George W.	1101 E st. NW.
Carpenter, Benjamin W. .	116 10th st. SE.	Merrillat, Oliver F.	744 4th st. NW.
Cantwell, John.	423 2d st. SW.	Mills, Romulo.	1207 11th st. NE.
Campbell, Robert G.	517 10th st. NW.	Noonan, Timothy V.	1121 Vt. ave. NW.
Cavalry, Edward.	1425 N. Y. ave. NW.	Nolan, James.	721 14th st. NW.
Curtain, Andrew G.	318 D st. NE.	Noonan, John.	2413 H. st. NW.
Campbell, William P.	425 4½ st. SW.	Niland, Patrick.	1730 L st. NW.
Cole, Marcellus.	113 7th st. SE.	O'Hagan, James.	1917 Pa. ave. NW.
Carmody, John.	1241 6th st. SW.	O'Donoghue, Joseph.	3055 M st. NW.
Calahan & Maisak.	Cor. 3d st. and Mass. ave. NW.	O'Hare, Edward.	717 18th st. NW.
Cruit, Henry K. & Rob't S. Scott.	817 9th st. NW.	O'Hare, Joseph A. & Co. .	2132 Pa. ave. NW.
Daly, John.	638 G st. NW.	Priddy & McKee.	1108 E st. NW.
Dougherty, William W. .	488 La. ave. NW.	Power, John A. & Co.	417 10th st. NW.
Driscoll, Humphrey.	822 6th st. NW.	Pettit & Driggs.	14th and B sts. NW.
Dent, Augustus S.	814 19th st. NW.	Pierce, Wm. S. & Wm. H. Barry.	936 Pa. ave. NW.
Donaldson, Thomas S.	1424 E st. NW.	Quinter, Joseph R., jr. .	1323 Vt. ave. NW.
Daly, Peter.	315 12th st. NW.	Rapley, William H.	1402 Pa. ave. NW.
Daniels, J. W. & Bro. .	1122 F st. NE.	Ridgway, Edward A.	1311 F st. NW.
Delaney, Peter J.	3203 Pa. ave. NW.	Rothwell, William.	119 10th st. NE.
Devereux, Frank N. & John Gaghan.	703 13th st. NW.	Ragan, James.	420½ 11th st. NW.
Duffy, Wm. & Jer. O'Day (Duffy & O'Day).	201 D st. SW.	Regan, Cornelius.	813 5th st. NW.
Dessez, C. E.	912 22d st. NW.	Robinson, Manson.	915 M st. NW.
Eckloff, Christian T.	812 North Capitol st.	Shedd, Samuel S.	432 9th st. NW.
Edwards, T. J.	1322 12th st. NW.	Schaffer, George F.	635 D st. NW.
Enright, Michael A.	228 O st. NW.	Spearing, Samuel J.	450 Pa. ave. NW.
Edwards, George T.	808 L st. NW.	Suman, James L.	801 D st. NW.
Fingles, P. A.	44 Defrees st. NW.	Sherwood, Samuel H.	1121 7th st. NW.
Fitzhue, J. B.	306 East Capitol st.	Sebastian, John W.	821 M st. NW.
Fitzgerald, Robert.	22 G st. NW.	Shepherd, Aaron.	2017 14th st. NW.
Gorman, Edward.	181 M st. NW.	Sullivan, Daniel J.	345 H st. NW.
Goodall, G. W.	601 C st. NW.	Sanderson, John W.	2 F st. NW.
Garrett, Charles W.	485 G st. SW.	Schell, Seth.	1341 29th st. NW.
Hutchins & Betz.	1208 E st. NW.	Shea, Daniel E.	901 5th st. NW.
Horan, James F.	416 4½ st. SW.	Stewart, Samuel H.	440 6½ st. SW.
Hay, Bushrod C.	24 E st. NW.	Talty, James.	1017 I st. NW.
Hannan, Daniel.	517 F st. NW.	Tennant, Alexander.	1228 32d st. NW.
Hill, Richard A. & Rozier C.	1741 11th st. NW.	Thorn, Charles G.	1223 F st. NW.
Harrison, James T.	603 Pa. ave. SE.	Thorn, Henry C.	725 13th st. NW.
Hayward & Hutchinson .	424 9th st. NW.	Thomas, William A.	1337 9th st. NW.
Hilleary, Theodore.	1218 E st. NW.	Umhau, C. F.	1714 7th st. NW.
Hannan, Edward J.	517 11th st. NW.	Venable & Sullivan.	822 20th st. NW.
Harrover, James R.	2102 14th st. NW.	Waters, Sandiford M. .	1213 32d st. NW.
Hoffman, Frank F.	1209 14th st. NW.	Wilkerson, John H.	220 7th st. SE.
Humphrey, Thomas.	1742 14th st. NW.	Ward, William N.	1304 H st. NW.
Hurley, John W.	08 E st. NW.	Williamson, D. S.	605 N. Y. ave. NW.
Hutchinson, William T. .	10 7th st. SE.	Winter, H. E.	217 I st. NE.
Haislip, John W.	08 9th st. NW.	Ward & Cunningham.	416 11th st. NW.
		Wall, William.	916 25th st. NW.
		Whalen, William.	425 12th st. NW.
		Clark, J. B.	1721 6th st. NW.
		Gibson, T. A.	1505 Pierce st. NW.
		Gallagher, B.	503 G st. NW.
		Venable, J. J.	1332 13th st. NW. and 1210 N. Y. ave. NW.

ADDITIONS TO THE LIBRARY.

The following-named works, reports, and papers have been added to our library during the year:

- Report on the Biloxi Fever, State Board of Health, Louisiana, September 1, 1886.
- First Annual Report of the State Board of Health of Pennsylvania, 1885.
- Annual Report of the Health Officer of City and County of San Francisco, for the fiscal year ending June 30, 1886.
- Eighth Annual Report of the State Board of Health of Illinois, 1886.
- Manual for the use of Boards of Health of Massachusetts, 1886.
- The history of yellow fever at Biloxi, Miss., 1886.
- Relation of quarantine to shipping interests, by Joseph Holt, M. D.
- Rapport Annuel du Bureau D'Hygiene, Et de Statistique De La Ville de Reims. Par le Docteur Hoël, 1885.
- Thirteenth Annual Report of the Secretary of the State Board of Health of Michigan, 1885.
- Report of the Secretary of the Interior for the fiscal year ending June 30, 1886.
- Annual report of Providence Hospital, Washington, D. C., 1886.
- A brief review of the operations of the Home Department in connection with the Cholera Epidemic of the eighteenth year of Meiji, 1885.
- Circulars of Information of the Bureau of Education, No. 1, 1886.
- Annual Report of the U. S. Fish Commission for the year 1884.
- Annual Report of the Charity Organization Society of the District of Columbia from date of organization, December 15, 1883, to November 1, 1886.
- Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States.
- Annual Report of the Health Department of the City of Saint Paul, for the year ending October 31, 1886.
- Eighth Annual Report of the City of Atlanta, Ga., 1886.
- An ordinance in relation to the Crematory, City of Wheeling.
- Twentieth Annual Report of the Columbia Hospital for Women and Lying-in Asylum, 1886.
- Fourth Annual Report of the Homeopathic Free Dispensary, 1886.
- Dr. Thomas Taylor's reply to Science.
- Transactions of the Medical and Chirurgical Faculty of the State of Maryland, April, 1886.
- Fourteenth Annual Report of the Health Department of the City of Cleveland, December 31, 1886.
- Seventeenth Annual Report of the Board of Trustees of the Reform School of the District of Columbia, 1886.
- Annual Report of the Health Officer of the City of Burlington, Vt., January 1, 1887.
- Biennial Report of the North Carolina Board of Health to the General Assembly of North Carolina, session of 1887.
- Annual Report of the Board of Health to the City Council, Cambridge, Mass., December 31, 1886.
- Second Annual Report of the Board of Health of Hartford, Conn., March, 1887.
- Circulars of Information of the Board of Education No. 2, 1886.
- Report of the Board of Health of the City of Reading, 1886.
- Annual Report of the Health Department of the City of Baltimore for the year ending December 31, 1886.
- Annual Report of the Board of Health of Fall River, Mass.
- Thirteenth Annual Report of the Secretary of the Board of Health of Knoxville, East Tenn.
- Twelfth Annual Report of the Medical Officer of Health, Coventry Urban Sanitary District, 1886.
- Annual Report of the Department of Health, Charleston, S. C., 1886.
- Annual Report of the Board of Health of Richmond, Va., 1886.
- Fourth Annual Report of the Superintendent of Health of Providence, R. I., 1886.
- Annual Report of the Department of Health of the City of Brooklyn, N. Y., 1886.
- Annual Report of the Board of Health of the City of Lowell for the year 1886.
- Report of the Commissioner of Education, 1884-'85.
- Fifth Annual Report of the Provincial Board of Health of Ontario for the year 1886.
- Report of the Health Officer of Newburgh for the year 1886.
- Thirty-third Annual Report of Births, Marriages, and Deaths in the State of Rhode Island for the year ending December 31, 1886.
- Report upon the Public Health in the City of Dublin for the year 1886, by Sir C. A. Cameron.
- Report of the Board of Health of the City of Keokuk, Iowa, year ending March 31, 1887.
- Annual Report of the Board of Health of Toledo, Ohio, 1886.
- Annual Report of the Health Officer of San Antonio, Tex., 1886.
- Smithsonian Report, 1885, Part 1.

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- Second Annual Report of the Board of Health of Newark, N. J., December 31, 1886.
 Fourteenth Annual Report of the Board of Health of New Haven, 1886.
 Proceedings and addresses at a Sanitary Convention held at Coldwater, Mich., September 9 and 10, 1886.
 Third Annual Report of the Board of Health of Syracuse, N. Y., 1886.
 Twentieth Annual Report of the Health Department of Cincinnati, Ohio, 1886.
 Recueil des Travaux du Comité Consultatif d'Hygiène Publique de France et des Actes Officiels, de l'Administration Sanitaire. Tome Seizième, 1886.
 Thirty-second Annual Report of Births, Marriages, and Deaths of Providence, R. I., 1886.
 Recent Advances in Preventive Medicine, by George M. Rohe, M. D.
 Report on Improved Methods of Sewage disposal and Water supplies, by C. W. Chancellor, M. D., Maryland Board of Health, 1887.
 Report of Proceedings of the Woodstock Sanitary Convention, May 17 and 18, 1887.
 Sixth Annual Report of the Board of Health of the City of Detroit, 1886-'87.
 Eighth Annual Report of the Board of Health of the City of Memphis for the year 1886.
 Fifth Annual Report of the Garfield Memorial Hospital, 1886.
 Tenth Annual Report of the Health Commission of Saint Louis, Mo., 1886-'87.
 Second Annual Report of the Board of Health of the City of Newport, R. I., for the year 1886.
 Public Health Report of the City of Pittsburg for the years 1880, 1881, 1882, 1883, 1884, 1885, and 1886.
 Ninth Annual Report of the State Board of Health of Rhode Island for the year ending December 31, 1886.
 Report of the Department of Health, City of Chicago, for the year 1886.
 Sixteenth Annual Report of the Local Government Board, 1886-'87.
 Bulletin of the United States Fish Commission, vol. 6, 1886.
 Descriptive Catalogue of Government Publications, 1871-1881

T 1.

REPORT OF THE COMMISSIONERS OF PHARMACY.

WASHINGTON, D. C., November 30, 1887.

GENTLEMEN: I have the pleasure to submit herewith the report of the commissioners of pharmacy for the year ending June 30, 1887.

Very respectfully,

R. B. FERGUSON,
Secretary.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

Registered during the year:

By examination.....	7
Graduates in pharmacy.....	9
Total.....	16
Previously reported.....	350
Total.....	366

Eight examinations were held, one being re-examination of an applicant previously rejected.

RECEIPTS.

Cash received for registration fees.....	\$97. 00
Cash on hand last report.....	374. 19
	471. 19

EXPENDITURES.

Rent, light, fuel, and janitor.....	\$45. 00
Stationery and postage.....	5. 00
Secretary's salary.....	75. 00
	125. 00
Balance on hand.....	346. 19

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